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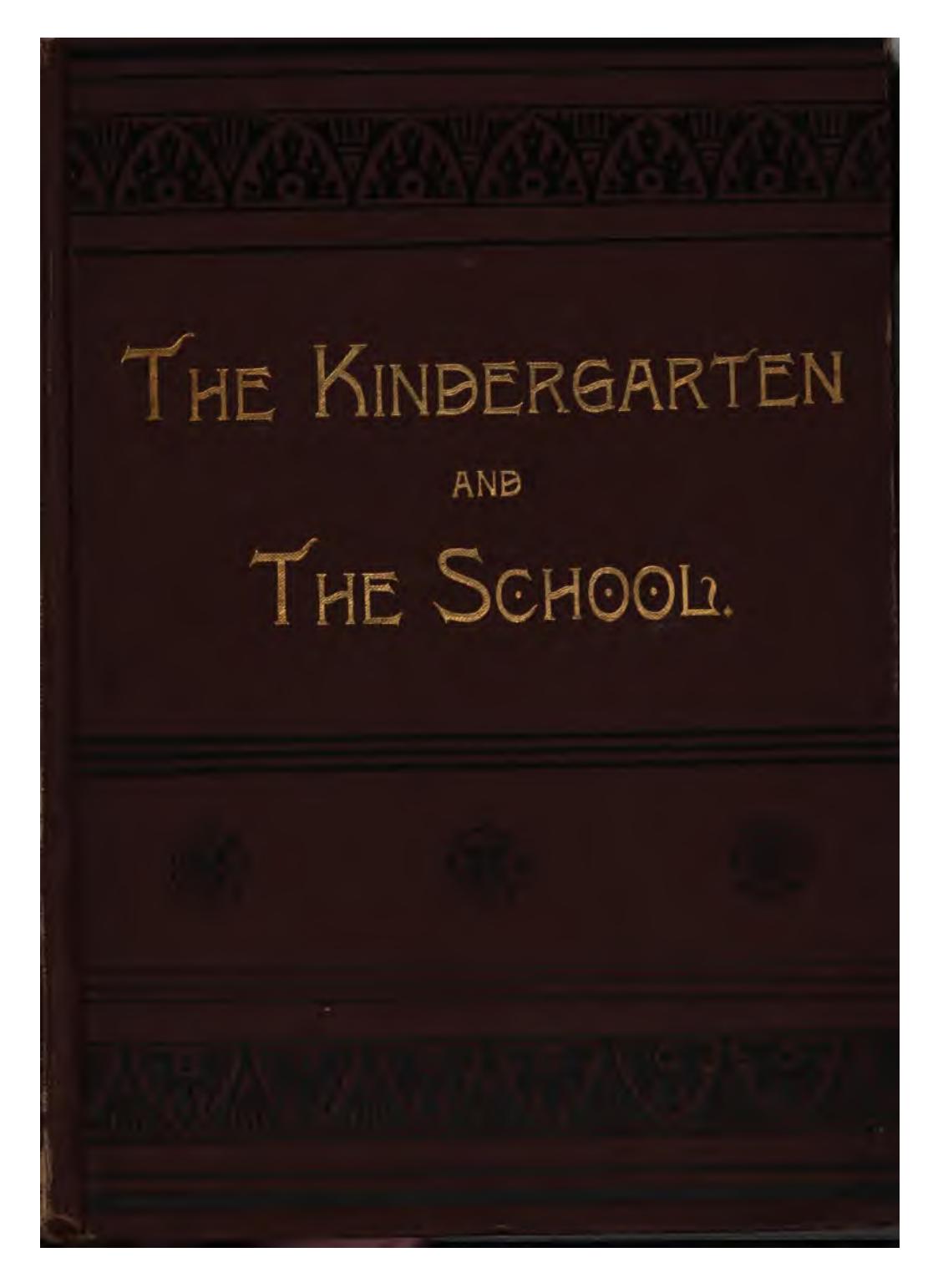
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THE KINDERGARTEN
AND
THE SCHOOL.

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THE KINDERGARTEN
2

AND

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BY

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NOTE TO THE READER

FRAGILE

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INTRODUCTION.

ONE book is published because something too good to be lost has been written; another because the fame of the author assures a good profit to both author and publisher; but this book has been deliberately planned, and the labor of the authors solicited, to meet a definite demand by progressive educators for a condensed volume giving the origin and progress of the kindergarten and its relation to school work. The following are a few of the points suggested by prominent educators as specially important to be covered:

“A clear, readable, and sensible biographical sketch of Friedrich Fröbel.”

“The theory of the kindergarten plainly set forth.”

“The methods of the kindergarten in considerable but not tedious detail.”

“The influence of the kindergarten in educational theories and methods; how it has influenced educational views and practices, and the share it has had in generating the movement known as the New Education.”

“Ways and means of making kindergarten theories and methods available in public schools.”

“To what extent and how can the kindergarten as a whole or in detached parts be made a part of our public school system?”

Fröbel, unfortunately, had not the ability to express himself with clearness, even those familiar with the language in which he wrote often finding it difficult to get at his meaning, and translations of his writings have sometimes been made by those not in sympathy with the spirit of the wonderful man; so it is not strange that he is often misunderstood and his writings characterized as “cant.”

INTRODUCTION.

The attempt has been made to produce a comprehensive statement, divested as far as possible of technicalities, and to meet the demand of one who has said, "Let us have the essence of the matter in United States language."

Brevity has been the one thing constantly in mind, and it is not easy to cover all the points of such a subject briefly and fully. How far these various and difficult demands have been met by the ladies who have been deemed most competent for the task, and who have reluctantly consented to attempt the work, the great army of educators in this country must decide. The five papers are merely hints of what the authors could have extended to many times the present limits without exhausting the subjects, but if this little book may inspire some progressive teachers with a desire to know more of Fröbel and the results of his work, and if it shall enable them to sift the true from the false in the great mass of literature at present being published under the guise of the "New Education," the design of the authors and publishers will be met.

THE PUBLISHERS.

Fröbel—The Man and His Work.

BY ANNE L. PAGE.

IN April, 1882, there were celebrations, in Europe and America, of the one hundredth birthday of Frederic Fröbel, the man through whom we have the Kindergarten.

He was born in Oberweissbach, a village of Schwarzbürg, April 21, 1782. His father was a hard working German pastor. His mother died before he was a year old, and his busy father left him to the care of servants and older brothers and sisters. He sorely missed a mother's care.

In an address to the ladies of Hamburg he once alluded to this time. "I have the pleasure," he said, "of presenting to you an idea which is great and holy, an idea whose realization must lead to the happiness of mankind. Fate decided upon me and chose me for its bearer without having consulted me beforehand. It showed me the importance of an education conformable to nature by giving me bitter experiences and privations, while the early loss of my mother threw me upon self-education. What one has been obliged to contend with bitterly, he wishes to soften to his fellow men."

A remarkably thoughtful and introspective mind providentially united to these circumstances, led this lonely little German boy in his manhood to a wonderful

understanding of childish needs and childish states. His own unhappiness taught him how to make childhood happy in the best sense and thus to protect and uplift it.

At the age of fifteen he was apprenticed to a forester in the Thuringian Forest, and here he studied geometry, surveying, and physics, especially botany. Afterward, entering the University of Jena, he added to these studies algebra, mineralogy, natural history, chemistry, the science of finance, and architecture. At Jena, Fröbel began to be dissatisfied with the teachings of the day. He says, "The lectures of my excellent teacher in mathematics had not the same value that they might have had and would have had if I had seen in the sequence and the progress of the same, more inner necessity and less arbitrariness. It was this consideration that decided me against this process of teaching. If I felt it already in the pure mathematics, how much more must it be the case in practical mathematics, and, especially, in experimental physics. The experiments could not captivate me. I sought and wished to see the whole in its inner connections. In botany I had a sensible, loving, and benevolent teacher. Through him my insight into nature was quickened, and my love for observing it made more active. I shall always think of him with gratitude. He was also my teacher in natural history. Two ideas which he set forth especially laid hold of and satisfied me: 1st, the thought of the relation of animals branching out on all sides, and, 2d, that the bone and frame-work of fish, bird, and man, is one and the same; and that of man is to be consid-

ered perfected as the ground type of all the rest which nature strives to represent in their subordinate frames."

On leaving Jena he received an appointment as actuary of the forest court near Bamberg. While there he made the acquaintance of a young doctor of philosophy, who was inclined towards the new school of Schelling. He gave Fröbel Schelling's "Bruno, or the Spirit of the Age." This book, Fröbel says, influenced him powerfully.

In 1805 he decided to gratify his desire for a thorough study of architecture, with the intention of making it his profession. An offer of private pupils, whose tuition would give him the means of support, fixed his residence in Frankfort-on-the-Main. His teaching made an impression on Dr. Gruner, the principal of a newly created Model School. On the evening of his first interview with this gentleman, Fröbel, then a youth of 23, spoke upon the subject that had been of such deep interest to him. After the conversation was over, Gruner said to the young man, with deep conviction, "Fröbel, you must be a schoolmaster." He offered him at the same time a vacant place in his school. Fröbel afterwards said that at these words it was as if the scales fell from his eyes. It was at once clear to him that this was what he had been blindly seeking. He wrote, after his teaching began, to his brother, "It seems as if I had found something not known before, and yet long desired, long missed, as if I had finally found my native element; I am like a bird in the air or fish in the sea."

It is likely that the teaching of the Model School in Frankfort in 1805, was as good, and perhaps better,

than anywhere else; far in advance, probably, of anything in Great Britain or America, but it did not satisfy Fröbel.

He was ever seeking for the laws of mental development. "He saw that the methods of instruction must be directed by these as well as by that of the subjects to be taught; that the conditions of reception must be considered as well as the conditions of presentation. This law and these conditions he diligently sought."

Gruner saw the restless strivings of his young friend and gave him the writings of Pestalozzi, whose name was then the watchword in educational matters. After reading these, Fröbel was so desirous of knowing the man who was trying to prepare the way for a new education after natural methods, that he went to Switzerland and spent two weeks, returning with the determination of going back at some time and learning by practice exactly the ideas and efforts of Pestalozzi. This opportunity came two years later, when a very estimable family in Frankfort wished him to take charge of the education of their three children. He agreed to do this upon the condition that he should be allowed to take his pupils with him to Yverdun, in order to connect himself with Pestalozzi's institution. He lived there with them for two years, teaching and studying.

He was a believer in Pestalozzi, and did what he could to spread his principles in Germany, but yet he was not satisfied. He felt at the same time the incompleteness of Pestalozzi, and his own need of more *knowledge*. This determined him to leave Switzer-

land in 1810 and go to the University of Gottingen as a student. He says: "Learning the Eastern languages seemed to me the necessary object of my efforts and aspirations, and I forthwith began with Hebrew and Arabic, and from these found a way to the Asiatic tongues, especially the Indian and Persian and also Greek." The lectures on natural history at the University gave him a view of the fundamental forms of crystals and minerals, and led him afterward to further study of crystallography and mineralogy in the Royal Museum of Berlin.

"It was here," says Lange, "that the persuasion ripened in his mind that all development was founded upon one law, and that this unity must be at the basis of all principles of development,—their beginning and end. This conclusion was the fruit of a profound study of nature in its law of development, and the most careful contemplation of the child. He gained an opportunity for this latter observation by teaching, while he was studying in Berlin, in Plamann's famous Pestalozzian institution for boys."

He was there engaged when the call to arms, to protect the father-land against Napoleon, came. Fröbel's reasons for entering the army were characteristic and noble. He says: "I had indeed a home, a native land. I might say a mother land, but no father-land. My native country did not call me. I was not Prussian; and so it happened, owing to my retired life, the call to arms inspired me little. It was something different that called me, not with enthusiasm, but with a firm resolution, to enter the ranks of the German army. In

was the feeling and consciousness of the ideal Germany that I respected, as something high and holy, in my spirit. Further, the firmness with which I held to my educational career decided me. Although I could not really say that I had a father-land, it must happen that every boy, that every child who should later be instructed by me, would have a father-land, and that that father-land now demanded protection when the child himself could not defend it. I could not possibly think how a young man, capable of bearing arms, could become the teacher of children whose country he had not defended with his life-blood. This was the second thing that influenced me to my decision. The third was that the summons to war appeared to me a sign of the common need of man, of the country, of the time in which I lived, and I felt that it would be unworthy and unmanly not to struggle for the common necessity of the people among whom one lives, not to bear a part towards repelling a common danger. Every consideration was secondary to these convictions, even that which grew out of my bodily constitution, too feeble for such a life."

At Easter, 1813, he went to Dresden to join the infantry division of the corps of Lützow, at Leipsic. "Owing to the retirement of my life," he says, "it was natural that I, although matriculated as a real student, yet stood far from the others, and really had no acquaintance among them; and so among my strong comrades, whom I joined in Dresden, I could find no acquaintance, although there were so many students *from Berlin*."

He served through the war, and his apparent turning aside from his chosen work ended in furthering it; for, in the service, he made the acquaintance of two young theological students, Middendorf and Langethal, without whose friendship and help he could hardly have carried out his after work.

One of these, Middendorf, spoke to a mutual friend, forty years after, of Fröbel's coolness in battle, and told how, one night, when their corps lay in a ditch behind a hedge, exposed to the fire of the enemy, whose balls were passing over them, Fröbel had turned to him, as he was lying behind him, and asked him if he knew how many seconds faster the musket balls moved than the balls from the flint locks. While he was in immediate danger of his life, Fröbel had the coolness to solve this problem.

On the march under the hottest July sun, when most of the men were trying to get rid of everything they could do without to make their knapsacks lighter, Fröbel collected all kinds of stones, plants, and mosses for his study of nature, and filled his knapsack with them. At the bivouac fire he brought out his treasures to serve as the subject of conversation on natural history. Still oftener he talked with them of his idea, and how they must work together for it.

They were together, in Berlin, for some time after the war, Middendorf and Langethal as private tutors and students of theology, while Fröbel received an appointment in the Royal Museum under Prof. Weiss.

He was now in the midst of the treasures of nature, an unwearied student of them. But he could never

rest in the material; and the laws of crystallization, which would have suggested to the mere scientist only further discovery and classification on the material plane, suggested to him a law of mental development which the childish mind could grasp, and by which it could become a voluntary creator.

Lange says of this time of life: "Ever clearer to him was the identity of the laws of development of the race with that of the individual, of the macrocosm with the microcosm; and more and more important did the knowledge of this identity appear to him; and ever anew was his delight kindled in putting in practice an education conformable to nature."

"He resolved to give up his position in the museum and devote himself wholly to the education of men and children. His repeated application for discharge was granted him after friendly and urgent remonstrations from Prof. Weiss. The question now was where to find the natural and vital point of connection with his new undertaking. This soon appeared in his own family, for the war had left the children of his eldest brother fatherless. To begin his educational activity with these children was his plan when he left Berlin.

"He took leave of his friends, Langethal and Middendorf, who had returned after the war to their theological studies, and with whom Fröbel continued in the closest friendship. He did not tell them anything about his plan, but promised to inform them when he had reached something definite. In 1816, at the end of September, he left Berlin and found in Greisheim five of his *sister's children assembled for education and care*, and

there and with them his great educational undertaking began.

“He had no outward means for carrying it on, nothing but his inward convictions and firm trust in its result. By the sale of a collection of minerals he realized a few crowns, which he used for the adornment of his Christmas festival and the partial rebuilding of his little house.”

The little school was soon removed to Keilhau, where the widowed sister-in-law of Fröbel purchased a peasant property. Fröbel was joined by his two friends from Berlin. Although they endured privation and poverty the little school grew. In 1817 a school building was put up, and in the spring of 1818 Fröbel was thinking of marrying. When in Berlin he had made the acquaintance of the Prussian Counselor-of-war Hofmeister and had often talked with him and his daughter of what was uppermost in his mind. He had inspired the latter with such enthusiasm for his work that she was willing to follow him out of the gay and refined society of Berlin, in which she lived, to the quiet village of Keilhau, and to work in poverty and obscurity for the realization of a great idea. “If it had not been for Wilhelmina Hofmeister,” says Lange, “the world would never have known Frederic Fröbel as the originator of the kindergarten.”

Fröbel’s personal appearance was not pleasing, but his enthusiasm and self-forgetfulness gave him great power over his friends. In 1820 his older brother, who had often carried him in his arms, gave up his home and business and future to the enterprise at Keilhau.

Fröbel began now to publish his ideas in books and papers. He wrote an account of the school at Keilhau, and, in 1826, published "The Education of Man," and also a weekly paper. During this time his teaching had not reached its elementary stage, and he was ten years from the kindergarten. But the convictions that came to him in the Thuringian Forest, that each stage of development in man, as in the plant, is from a preceding one, and that the perfection of each stage depends upon the perfection of the one that precedes it, was leading him back to the beginning of education, until he stood, reverent, by the mother's side, at the cradle of the child.

From the institution at Keilhau came others in Germany and Switzerland, in which pupils were taught and teachers trained. It was a time of great awakening in Germany. Fichte, "the great pedagogic statesman and philosopher," had cried aloud, and spared not, to the German princes, that only upon the foundation of national education could poor, conquered, and shattered Germany ever be rebuilt; and the good Queen Louise, mother of the present Emperor, sent twelve young men to Pestalozzi to be trained as teachers. This began the movement that placed Germany in advance of all other countries in the matter of education.

In 1836 Madame Fröbel was called to Berlin, by the death of her aged mother, and during their residence there Fröbel was constantly occupied with a plan for the education of little children. It became clear to him that it was indispensable, and that, in the education, no *violence* must be done to the nature of the child. The

idea of the kindergarten rose upon him, and it puzzled him not a little to choose a name for it. It was not school ; in it children were to grow naturally as plants in a garden. As he walked one day with his old friend Middendorf, he exclaimed, "If I could only find a name for my youngest child." Suddenly he stood still and called out, "Eureka! Kindergarten it shall be called," and kindergarten—child garden—it has been called, ever since.

He procured his first materials and chose for his beginning the little town of Blankenburg, and in 1837 began his enterprise. At this time, also, he began to publish a weekly paper with the motto, "Come let us live with our children." His new undertaking drew all his old friends about him, and all the discouragements and disappointment that had come to them in the last twenty years, at Keilhau and Wartensee and Willisau, too many to be detailed in this sketch of Fröbel's life, had not destroyed their faith in their leader nor their enthusiasm for the cause so dear to him. Fröbel was soon called to Dresden and Hamburg, where he awakened an interest that caused the establishment of kindergartens.

In 1840, he made, at the Guttenburg festival, an appeal to the women of Germany, and the appeal was answered, and at that festival the kindergarten was founded as a universal German institution. During his stay in Dresden, Frau Fröbel died; but not before she had seen the kindergarten take root. Fröbel still worked on, missing her faithful sympathy and help.

In 1849, ten years after, the cause received an important aid, in the Baroness von Marenholtz-Bülow.*

She, herself, tells the story of her first meeting with him as follows: "In the year 1849, at the end of May, I arrived at the baths of Liebenstein, in Thuringia, and took up my abode in the same house as in the preceding year. After the usual salutations, my landlady, in answer to my inquiry as to what was happening in the place, told me that a few weeks before, a man had settled down on a small farm near the springs, who played and sang with the village children, and, therefore, went by the name of the 'old fool.' Some days after I met in my walks this so-called 'old fool.' A tall, spare man with long gray hair was leading a troop of village children between the ages of three and eight, most of them barefooted and scantily clothed, who marched two and two up a hill, where having marshaled them for a play he practiced them with a song belonging to it. The loving patience with which he did this, the whole bearing of the man, while the children played various games under his direction, were so moving that tears came into my companion's eyes as well as my own, and I said to her: 'This man is called

*"The Baroness von Marenholtz-Bülow, whose life work is inseparably associated with the dissemination of Fröbel's system of child-culture in different countries, belongs to the Redum line of a princely family whose name appears in the time of Charles the Great. Her father, Baron Frederick von Bülow-Wendhausen, the owner of the fine estate of Küblingen in the Duchy of Brunswick, was president of the Ducal Chamber and member of the regency charged with the administration of affairs during the long minority of the Duke. Her mother was the *imperial* Countess von Wartensleben, of the Mark of Brandenburg."

an old fool by these people, perhaps he is one of those men who are ridiculed or stoned by contemporaries and to whom future generations build monuments.'” The play being ended she approached the man with the words: “ You are occupied I see with the education of the people.” He replied to her greeting and invited her to his house, which he had rented for the purpose of educating young women in the neighborhood as kindergartners, and led her into a large room, in the midst of which stood a table. He opened a closet containing his materials, and gave her some explanation of their educational aim which at the moment did not give her much light on his method. One important sentence remained fixed in her mind, “ Man is a creative being.” When one of his pupils called him Mr. Fröbel, she remembered having once heard of a man of that name, who wished to educate children by play, and that had seemed to her a very perverted idea, for she had thought only of aimless play.

In after interviews with Fröbel the Baroness became thoroughly acquainted with his principles and their application to the development of children, and also to the training of kindergartners. She became an enthusiastic helper. She introduced Fröbel to the reigning Duke of Meiningen, and, by his permission and invitation, the kindergarten was transferred to the spacious rooms of his country house, and his little ragged subjects played on the grass under the great linden trees. He offered Fröbel the position of tutor to his son, but Fröbel told him frankly, “ that it was impossible to give a sound intellectual education to a child who had

not a true moral development, and a child could not have that who was separated from other children and led to imagine himself as having a superior nature." He advised the duke to educate his son with others, and the wise prince followed his advice.

Before the summer was over Madame Marenholtz brought to him many thoughtful and influential persons to witness the methods and listen to the explanations given by Fröbel of their educating aim. Among these were Diesterweg, a director of the Royal Seminary for city teachers at Berlin, and the acknowledged head of the Pestalozzian method in Germany, the Minister of Education of the principality of Saxe Weimar, and several teachers and men of science who afterwards became advocates of the system in periodicals or special treatises.

She introduced Fröbel and Middendorf to the courts of Meiningen and Weimar. In the winter of 1850 which she spent at Weimar, she laid the foundation for the first kindergarten there, and interested the Grand Duchess of Russia so much that she introduced the method into the orphan asylum of St. Petersburg. She also induced the Countess of Hesse to employ one of Fröbel's pupils in the education of her son, the future prince. Through her efforts kindergartens and training schools have been established in France, Holland, Switzerland, and Italy.

I quote from a biographical sketch of her: "This noble woman still lives, and, denying her years the peaceful hours of rest, works on for the furtherance of the cause which has been so blest at her hands. May the

evening of her busy and useful life be cheered by the grateful voices of thousands of women whom she has inspired and trained to lives of beneficent activity, and of tens of thousands more to whom her efforts have secured the priceless inheritance of a happy childhood, and brought light, sweetness, and strength to their widely separated homes. It is the privilege of only a few, in one or many generations, so to live; and living, to see the work of their hands still progressing to large and still larger results, in every civilized country."

It was the very evening of Fröbel's days that was so cheered by this strong friend. She helped him to bear the disappointments caused by the order interdicting the kindergarten, that was issued in August, 1859, by the Prussian minister of education. While this did not change the approval of educational circles, it created distrust among the conservative and governing classes, which has been a hindrance to the cause, particularly in Prussia. This, however, has not been universal, even there. The crown prince and princess have shown their approval by having their children educated in kindergartens, and the princess has been named as the patroness of training schools in Germany and England. The interdict, which was removed in 1861, by the new minister of education, was caused by socialistic pamphlets published by Fröbel's nephew, but which for a time were supposed to have come from Fröbel himself, who was greatly surprised and shocked by it, but still continued his work of training kindergartners, which occupied his last years. This work was car-

ried on in the castle of Marienthal, of which the Duke of Meiningen had given him the use, for this purpose. In his work he was assisted by his second wife, to whom he was married in 1851. Madame Fröbel survived her husband and continued the work for a short time in Marienthal and afterwards in Hamburg. In her reminiscences of Fröbel the Baroness says: "At Whitsuntide in 1852 Fröbel was invited to the teachers' convention at Gotha. When he entered the hall in the midst of a discussion the whole assembly rose. At the end of the discourse the president of the meeting gave him a hearty welcome, followed by three cheers from the whole assembly. Fröbel thanked them in a few simple words and immediately taking up the subject, which was, 'Instruction in Natural Science,' was listened to with perfect attention." A few weeks later, in June, he passed peacefully away. His last words were, "I am a Christian man."

His physician, in speaking of his last days, said: "I have seen many men die, but never any one who looked into the face of death so cheerfully and so calmly as Fröbel. One day he asked me what I thought of his condition and whether he could live a short time longer. I thought I ought to speak the real truth. I advised him not to postpone his last directions, since the failing of his powers left little hope of his recovery. He took my words with the greatest calmness, and I did not notice the least change in his countenance. When I went the following noon they told me that he had added some last directions to his will that morning. *At the door of his chamber I heard a low sing-*

ing and when I entered I found Fröbel sitting up in his bed, which was pushed to the open window, looking with glorified joy on the landscape before him and singing softly to himself. To my remark, ‘ You appear to be better, professor, and more cheerful,’ he replied: ‘ Why should I not ? I enjoy beautiful nature even in my last moments.’ ” Fröbel had called death the enlargement of life, when it was far from him, and now that it was near it wore the same aspect, and in its very presence he was full of quiet joy, and trust, and peace.

Since Fröbel’s death there has been a steady increase of the reception of his ideas of education, and it is not too much to say that they promise to revolutionize the methods in all grades of schools. Not that the ideas are his alone. As soon as the dawn of Christianity had shown the errors of the education of the old civilizations, in which the aim was merely to fit the child for the place in which it found him, within some nationality and caste; when it had shown that it was but just to educate him as a human being, and not as peasant or prince, and even the restrictions of sex began to be taken off, then it was seen that the new ends required new means. The wisest of the Greek philosophers had had glimpses of these truths, but only glimpses, and in the early Christian century the new ideas came very slowly until the time of the Bacons, Roger in the thirteenth and Francis in the sixteenth century, who left great seed-thoughts that have borne fruit for men in all the centuries since. After Lord Bacon came many whose names have come down to us as having their part—greater or less—in elaborating and applying the great

truths given through him. Prominent among these was John Amos Comenius, the illustrious Moravian pedagogue. Two hundred years before Fröbel, he mapped out the work of the kindergarten in a remarkable manner, although he gave little light on the means of accomplishing it. "During the first six years," said he, "put into the child the foundation of all knowledge necessary to life. In nature show him stones, plants, animals, and teach him to make use of his limbs (natural history, physics); to distinguish colors (optics) and sounds (acoustics); to contemplate the stars (astronomy). He will observe his cradle, the room he lives in, the house, the neighborhood, the roads, the fields (geography); make him attentive to the succession of day and night, to the seasons, to the divisions of time, the hours, weeks, months, festival days (chronology); let him learn the administration of the house (politics); let him familiarize himself with the first notions of calculations, sales, and purchases (commerce); the dimension of bodies, their lines, surfaces, solids (geometry); he will hear singing, and his voice will learn to reproduce sounds and musical phrases (singing, music); he will survey the formation and development of his mother tongue (grammar); he will exercise himself in expressing his thoughts and sentiments by gestures and the inflexion of the voice (rhetoric). By these means the maternal school will develop the germs of all the sciences and all the arts." "It is a fundamental error," he says, "to begin teaching with language and end it with things, mathematics, natural history, etc.; for things are the substance, the body, and words are accident

and dress. These two parts of knowledge are to be united, but it is necessary to begin with things which are the objects of thought and speech. We should at first exercise the senses (perception); then the memory; then the intelligence; then the judgment (reasoning); for science begins by observation. The impressions received are then engraven on the memory and imagination; intelligence then takes possession of the notions collected in the memory, and draws from the general ideas; at last draws conclusions from things sufficiently well known and co-ordinated by the intellect. It is not the shadow of things that makes an impression upon the senses and imagination, but the things themselves. It is therefore by a real intuition that teaching should begin, and not by a verbal description of things."

These were great truths, and the best among the educators of the next two centuries strove to make them practical. Near the middle of the eighteenth century came Pestalozzi, the father of modern education. His name was the rallying cry of the educational army. He began his work in obscurity and poverty when Napoleon's armies were sweeping through Switzerland. When some one approached Napoleon with an attempt to interest him in Pestalozzi's ideas, he said scornfully that he had no time for a, b, c's. Poor shattered Germany took time, and when Queen Louise sent twelve young men to be trained for teachers at Yverdun, she gave to her dynasty a power greater than Napoleon's cannons. When, during the late Franco-Prussian war, some one asked Von Moltke the secret of the superiority of the German army, he pointed to a group of common

soldiers studying with intelligent interest the map of the country through which they were passing, and said: "There it is." It was then Pestalozzi's hand that, in Versailles, crowned Kaiser William Emperor of Germany, and pulled down the dynasty of the man who rashly sneered at a, b, c's.

But the best did not come with Pestalozzi. Like Comenius, upon whose thought he built, his practice was far behind his theory, and he still dealt with words and pictures. He taught those who came to him to be trained as teachers, that "the powers must be developed harmoniously," that "all individual development manifests itself in self-activity"; that "this self-activity has two phases, one consisting of reception, acquisition, learning,—from without to within; the other of expression, production, creation—from within to without." "The former," he taught, "is the basis of the latter, but orderly and symmetrical development can only be secured by both." Pestalozzi did much towards promoting the former, but he failed to find the means of leading the child to express itself by doing, and it was reserved for Fröbel to find the long closed path into the child's world that so many of the learned before him had missed. The story of his remarkable childhood, told by himself, may suggest the reason why he was able to make this discovery. He tells this story in an autobiographical letter to the Duke of Meiningen,* and any account of his life would be very imperfect which did not take in some parts of this story. It

* This letter has been translated by Miss Wheelock, of the Chauncy Hall Kindergarten, in Boston.

begins with the death of his mother when he was nine months old, and, after telling of the neglect of the servants, who left him to his older brothers' and sisters' care, he speaks of his father's large parish and its heavy duties, which took him away from his family, and says that this early separation caused him to remain a stranger to him throughout his life. "I really," he says, "had no more a father than a mother."

When he was in his fourth year his father married again, and at first the heartless and unprincipled woman who became his second wife responded to the little child's love for her, but after the birth of a son of her own she cruelly repelled him and even misrepresented him to his father. In after years she prevented him from having the same education that his brothers had, lest the expense should be too great. When Fröbel had nearly completed his eleventh year, his maternal uncle, Superintendent Hoffman, of Stadt-Ilm, visited the family. He saw the unhappy situation of his sister's child and asked to be allowed to take charge of him. This was granted, and henceforth in the freedom of a home where love reigned, and in a pleasant out-of-door life, Fröbel grew strong and happy. It is in an account of the earlier years in his father's house, in the years from five to eleven, that we see how unusually introspective and thoughtful he was.

Of his first experience at school he says: "Since my father, through his many duties, was prevented from instructing me himself, and especially because he had lost the desire to do it from my causing him so much trouble in studies which were difficult for me, I was

obliged to attend the public village school. Our school, like all others at that time, stood in interchangeable relations with the church; the school children had appointed places in the church; they were not only obliged to attend church, but every child, as a proof of his attention to the preaching, had, on Monday (on which day an examination was held for that purpose), to repeat to the teacher some one of the passages which the preacher had used in his discourse as proof-texts. The one most suitable for the childish mind was then selected to be committed to memory by the little ones. One of the larger school children at an appointed time had to repeat the Bible verse to the smaller ones, sentence by sentence, through the whole week. The little ones, all standing, had to repeat the same, sentence by sentence, until the passage was perfectly comprehended by every child. I was brought to school on a Monday. The appointed passage for the week was the well known, ‘Seek first the kingdom of God.’ I heard these words repeated every day in a quiet, earnest, somewhat sing-song childish tone, now by one, now by the whole. The verse made an impression on me like nothing before nor since. Indeed, this impression was so lively and deep, that to-day every word lives freshly in my memory with the peculiar accent with which it was spoken; and yet since that time nearly forty years have elapsed. Perhaps the simple child’s soul felt in these words the source and salvation of his life. Indeed, that conviction became to the struggling man a source of inexhaustible courage, of always unimpaired joy and willingness

in self-consecration. Enough to say, my entrance into this school was for me the birth to a higher spiritual life. I pause here in my recollections to ask myself whether I shall dwell longer upon the first period of my life; yet this is the time in which the germs of my life unfolded, in which the heart crises occurred—the first awakening of my inner life. Should the delineations of this earliest period be successful, the comprehension of my mature life and struggles will be easy. Therefore I prefer to dwell upon it a relatively long time, and so much the more because I can then pass more quickly over the later periods of life. It seems to me as if it were with this account and view of my life exactly as with my educational and teaching method; what is set aside as the most common and insignificant appears to me often the most important, and it always seemed to me a mistake to leave a gap in what is original and fundamental. Yet I know well that by such a search into the hidden springs of action one may easily weary those that cannot yet see the whole picture clearly, or comprehend the whole aim of the representation.

“Contrary to existing regulations, I was placed by the position of my father, as village minister, in the girls’ school. Hence, I received no place near pupils of my own age, but next the teacher, and was so brought near the largest pupils that I shared, when I could, their instruction, especially in two studies. At one time I read with them, and then I had to learn, instead of the above-mentioned Bible quotations, the sacred songs which were sung on Sundays in the

church. There are two songs especially which show forth like two clear stars in the dark and awful morning twilight. ‘Soar above, my heart and soul,’ and ‘It costeth much to be a Christ.’ These were songs of life to me. I found my little existence pictured in them, and the purport of them so penetrated my being that in later life I have often strengthened and encouraged myself by what then enriched my soul.

“The hard, unpleasant expressions of an orthodox theology I soon transformed in my imagination, to which, perhaps, two circumstances especially contributed. I heard the same expressions an indefinite number of times; for I lived also under the precepts of the confirmation instruction which my father imparted to his household. I heard the terms in the most different connections, whence finally the conception sprang up of itself in my soul. Secondly, I was frequently the silent witness of my father’s earnest and rigid pastoral care; of the frequent interviews between him and the many people who visited the parsonage to obtain counsel and instruction. I was thus again led from the outer to the inner world. Life, with its most secret impulses, and the words and opinion of my father thereupon, passed before my eyes, and I realized in this way things and words, deeds and professions, in their most vital connection. I saw the fragmentary and burdened, torn and dismembered life of man as it appeared in this collection of five thousand people to the observant eye of their earnest and resolute pastor.

“Matrimonial and family relations were often the sub-

ject of his admonitory and corrective conversation and remonstrances. The way in which my father spoke of this made me consider the subject as one of the most pressing and difficult for man, and, in my youth and innocence, I felt deep grief and pain that man alone among created things should pay the penalty of such a sexual difference that made it hard for him to do right.

"I could find nothing to reconcile that within and without me which was absolutely adapted to my mind, heart, and inner need. And, indeed, how could this be possible at my age, and in my position?

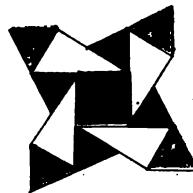
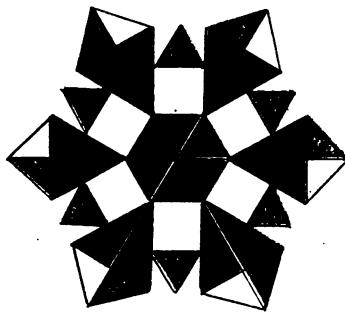
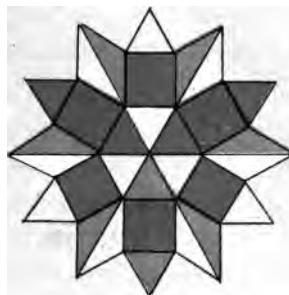
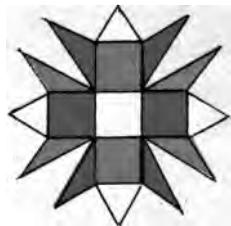
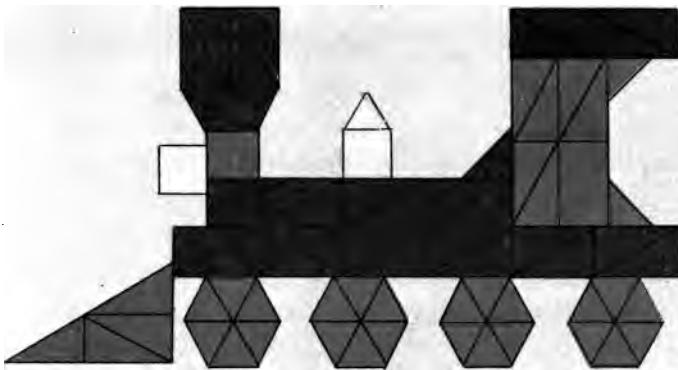
"Just then my oldest brother, who lived away from home (like all my older brothers and sisters), came back for a time, and when I told him my delight in the purple threads of the hazel buds, he made me notice a similar sexual difference among flowers. Now my mind was satisfied; I learned that what had troubled me was a wide-spread arrangement throughout nature to which even the quiet, beautiful growths of flowers were subject. Henceforth, human and natural life, soul and flower existence, were inseparable in my eyes, and my hazel blossoms I see still, like angels that opened to me the great temple of nature. I received what I needed: in place of the church, a natural temple; in place of the Christian religion,* the life of nature; in place of harmful, hating human life, a quiet, speechless plant life. Henceforth it seemed

* It cannot be doubted that Fröbel means here dogmatic theology, as he constantly speaks of the Christian religion as the only basis for true education.—A. L. P.

as if I had the clue of Ariadne, which would lead me through all the wrong and devious ways of life; and a life of more than thirty years with nature—often, it is true, falling back and clouded for great intervals—has taught me to know this, especially the plant and tree world, as a mirror; I might say, an emblem of man's life in its highest spiritual relations; so that I look upon it as one of the greatest and deepest conceptions of human life and spirit when in holy scripture the comparison of good and evil is drawn from a tree. Nature, as a whole,—even the realms of crystals and stones,—teaches us to discriminate good from evil; but, for me, not so powerfully, quietly, clearly, and openly as the plant and flower kingdom.

“I said my hazel blossoms furnished me Ariadne's thread. Much was thus solved to me again and again in an entirely satisfactory way; for example, the first life experience of the first beings in Eden, and much that is connected with them.

“Three crises of my inner life, which happened before my tenth year, I must bring out here before I turn to my outer life of this period. As folly, misconception, and ignorance, even in the earliest epoch of the world, are presumed to have determined its ruin, so it happened in the time of which I now speak. My inner life was then very quiet. I said to myself, very determinedly and clearly, the human race will not leave the earth until it has reached so much perfection in this dwelling-place as can be reached on earth. The earth—nature, in the narrow sense—will not pass away until men have attained a perfect insight into the



PAPER PASTING—Parquetry.



composition of the same. This thought often returned in different aspects to me; to it I often owed rest, firmness, perseverance, and courage.

“Towards the end of this period, my oldest brother, of whom I have already spoken, was in the university. He was studying theology. The critical philosophy of that time began to illumine the doctrines of the church. It could not but happen that father and son were often of different opinions. I remember that once they discussed, with a lively exchange of words, some religious or church opinion. My father was excited, and on no account would give up. My brother, although mild by nature, was growing red, and could not resign what he held as true. I was here also, as so often, an unobserved listener, and I still see my father and brother as they stood opposed in their war of opinion. It seemed to me almost as if I comprehended something of the subject of their strife, and that I must decide that my brother was in the right; and yet there seemed to be something in my father’s view that was not entirely incompatible with a mutual understanding. It came to my mind that in every foolish idea there is a true side to be found, which often misleads to a convulsive, firm hold of the wrong. This view came out in my life more and more, and later, when two men in my presence contended for the truth, I learned to know it from both. On this account, I never liked to take sides, and this was my salvation.

“Another experience of my youth which had a definite influence upon my inner life was the following: There are constantly recurring, positive demands in our

church religion to put on Christ, to show Christ in the life, to follow Jesus, and so on. These demands were often presented to me through my father's zeal in teaching and his earnest life.

"The child knows no fear from the claims which are adapted to the childish spirit. As he receives to himself and recognizes the claim as a whole, so he wishes the fulfillment of the same to be entire and perfect. By the so-frequent recurrence of this demand came to me in its highest importance, also, the great difficulty in the way of its fulfillment; it even appeared to me that the latter was quite impossible. The contradiction which I believed I discovered in this way was oppressive to me in a high degree. Finally, the blessed thought came to me: human nature, in itself, does not make it impossible for man to live and represent again the life of Jesus in its purity; man *can* attain to the purity of the life of Jesus if he only finds the right way to it. This thought, by which as often as I think of it I am transplanted to that place and condition of my boyhood, was by chance the last of that epoch of life, and so it may close the account of my inner development at that point. In looking back upon it, I see that it was the heavenly moment of my life.

"From the delineation of my inner boy life one might possibly infer a happy, satisfied outer life. Such a conclusion would not be correct. It appears to have been my destination to set forth and unravel the sharpest and hardest contrasts and contradictions. My external life was, therefore, of an entirely opposite character. I grew up without a mother; my physical con-

dition was neglected, and through this neglect I had acquired many bad habits. I liked to be occupied; but often erred, in my awkwardness, in choosing material, time, and place. So I often drew on myself the highest dissatisfaction of my parents. From my aroused feelings, I was deeply sensible of this, and for a longer time than it lasted with them, and so much the more because I found myself at best at fault in the scheme, though not in the motive. In my mind, I saw always one side, viewed from which my doing the thing was not entirely wrong, still less deserving of punishment. In my opinion, designs were attributed to my actions which did not lie in them. This consciousness first made me what I had the credit of being—namely, a bad boy. Finally, from fear of a severe punishment, I concealed the most innocent transactions, or shielded myself by false assertions, when I was asked. Enough, I early passed as *bad*; and my father, who did not always have time for investigation, received the thing as it was represented to him.

“In play with my half brothers and sisters, according to the mother’s construction, I was always the occasion of all improprieties that happened. As the sympathy of my parents separated itself from me, my life separated more and more from them, and I was deprived of contact and union with them.

“In this mournful condition, I ardently wished a change. I counted my older brothers and sisters happy who were all out of the house. At this troublous time, my oldest brother, already mentioned many times, returned home. He appeared to me as an angel

of life; for he recognized in and under my mistakes the human side of my being, and took me often under his protection, with my misdemeanors. After a short time, he departed again, it is true; but my inner being was bound in the closest way with his, and, after his death, this love was the turning point of my life.

“The happiness of being able to leave the paternal roof finally fell to my lot, and it was of the highest necessity; for otherwise the violent contradictions of my inner and outer life would necessarily have confirmed the bad reputation that had now attached itself to me.

“When I was ten and three-quarter years old, a new life began, quite different from the earlier one. I permit myself here to make a comparison of this my early life with my present, to show how the former is to me the source of knowledge, and experience for the latter.

“As I, when a child and boy, strove to educate myself properly, according to the laws placed by God himself in my nature, although yet unknown, so I strive now in a similar way, according to similar laws, and by a similar process, to educate men—the children of my father-land. What I attained by my exertions as a boy, with a certain degree of unconsciousness, man often gains with a certain degree of ignorance, not less truly, but generally under more favorable circumstances than those which I experienced in my boyhood. So life is to me, in its great and small phenomena, in those of mankind and the human race, as well as in those of the individual (although he himself arbitrarily

distorts his life); so the present, past, and future is to me an unbroken, continuous, great whole, in which one thing explains, justifies, conditions, and demands another.

"My childhood taught me that when mistrust exists where confidence should be, where separation takes the place of unity, when doubt is active where belief in man should operate, sorrowful fruits must appear, and a burdensome, oppressed life is the consequence."

Emerson says: "He that is to be wise for many must not be protected." Does not this saying shed light on the otherwise dark providence which permitted the mother's early death, the step-mother's cruelty, and the father's preoccupation? All these were needed that the lonely, neglected child might be thus driven to live the life of childhood consciously, that he might understand how to find a remedy for its sorrows and a safeguard for its dangers. These impressions were to be so burned in, by suffering, that the active life of the world and the schools, in manhood, could not obscure them. Thus, while others in trying to educate children had blundered by taking the child out of his own world, Fröbel, still a child at heart, had been able to see the path unto that world—the world of symbolic play. Plato had seen what a mighty power was in this tireless love of play, and suggested that it should be made use of in education. Fröbel has done what Plato suggested. He spent much time in observing children of all ages, and the ways in which mothers instinctively played with them—

little ones. He has tried “to elevate this instinct into insight.” He has made provision to have the kindergarten begin in the mother’s arms. This provision will be of great value when it is seen that it is more important to train women to care for children than to train them for anything else, that motherhood may become true motherliness. This training needs the highest culture of the school and the college, particularly for the care of the youngest, and woman needs to be raised from the frivolity of riches and from the drudgery of poverty, that she may give time to it. When motherhood cares rightly for childhood, body, mind, and soul, and is rightly honored and cared for itself, the world will have taken the millennial road.

Fröbel has adapted songs and games to the six soft balls of the 1st gift, and the sphere, cube, and cylinder of the 2d gift, for baby use. No direct teaching must be attempted in the first two or three years, but clear experiences and impressions, as harmless as nursery rhymes, may be given, in play, as foundations for after knowledge. These gifts, thus presented, are much less distracting and puzzling than the toys that are so often given to little children. Fröbel had deep insight into self-activity, dividing it into capricious and rational. The healthy child works all day at his play as industriously as the man at his calling. It is important to him, for, by it, he is trying, instinctively, to develop himself by making his own the life he sees about him, but it is capricious, and has no end but itself. It is the free activity of pure play, full of whims and fancies and as *fickle as the winds*. The child needs it, and needs much

of it, and must not be taken out of it entirely lest his individuality should be lost, and he must not stay in it too much lest his individuality becomes individualism or oddity. His capricious self-activity must become rational. He must learn to control his caprice, and thus come into true freedom, without which his life will be a failure, in its want of harmony with his fellow men. He will enjoy sympathetic guidance of his play, and there should be no other, and will be led gradually to the greater subordination of the school, that will be good for him when he is older. There is no aimless play in the kindergarten, for the true kindergartner has a purpose in all she does, even in the games, and much more in the work with gifts and occupations. When Fröbel went beyond Pestalozzi's idea that the child must be self-active, and said the self-activity must be voluntary, he saw that, if the doing was to be orderly and symmetrical, there must be a law for it adapted to childish capacity. It was this law that flashed upon him among the crystal forms in the museum at Berlin,—the law of contrast and connection, as shown in the contrast of the cube with the sphere, and their connection by the dodecahedron, the trapezohedron, and intermediate forms. A very young child, making temporary forms with the gifts, or permanent ones with the occupations, can use this law. If he has placed a cube, or plane, or stick, or has folded paper, or made a line in sewing or drawing, he can do the opposite of what he has done, and then the intermediates—something partly like each and not wholly like either. This symmetrical form can be varied by opposites, so

that a different form will be developed from it. Fröbel's methods work in harmony with the laws of our being and so work safely. Exercise is as necessary to the little brain as to the limbs or any organ of the body, and learning to observe and compare the concrete, and to work with it within the limits of childish capacity, is not only safe, but of great use to the whole being's growth. So many children have been injured by the confinement and the cramming of the schools (mis-called education), that many think it is better to leave the early years to idleness and chance development. But, as the Creator, who gives nothing in vain, has given to these years the great desire for investigation, that is shown by the eager curiosity of little children, and for the busy doing with the hands, almost irrepressible in a healthy child, we may know that he does not mean these earliest years to be idle and empty ones. These desires give an opportunity that comes but once, for they are dulled if not gratified. After awhile this eager curiosity dies down, and sometimes dies out, so that the eyes, once turned so longingly to the wonders about them, lose all desire to look around, and are less likely to look up. The early fostering of this invaluable curiosity would increase the power of an Humboldt or an Agassiz, and they, alike with the dullard, and all who stand between the genius and the dullard, feel the want of it in after life. "Professional and art schools open for grown up youth only, cannot repair what was lost in early childhood, no matter how good the teaching." The neglect of childhood, the enormous waste of childish time and childish power, is one of the most

fruitful sources of crime, insanity, and poverty. It is easier and cheaper to form childhood, than to reform manhood and womanhood. When this is realized it will be seen that it is not economy, but reckless waste, to grudge the money necessary for kindergartens. The great movement begun in Boston many years ago, by Dr. Philbrick, to elevate primary schools, although it has not yet wholly leavened the popular mind, has done much to prepare the way for the kindergarten. And school committees may one day see that cheap primary schools are worse than cheap high schools. Kindergarten education is primarily a spiritual education. It makes the loving heart of more importance than the thinking head or the skillful hand. These have their own great value, but this has greater. In the innocent and orderly gayety of the plays of the kindergarten, the children are taught to enjoy and enhance each other's enjoyment, and the training of their creative powers enables them to make something to give, and, by giving, they learn to love to give. Washington Allston says: "The only competition worthy of a wise man, is with himself." Competition with themselves is the only competition allowed in the kindergarten, and, beside this, how foolish and wicked and hideous appears the selfish emulation, fostered in our schools by the place-taking, and ranking, and marking of children, even in lower classes. Those teachers who cannot inspire children with a love of learning, without these stimulants, so deadly in their effect upon the soul, have mistaken their calling ; and those who have the grave responsibility of school committees may well

ponder the probable results of one day of Christian teaching set against six days of heathen practice.

The progress of the kindergarten in foreign countries, as well as in America, was very slow till about the year 1872; since that time it has been, perhaps, as rapid as is consistent with sound growth, although it has, no doubt, seemed discouragingly slow to those engaged in this educational mission work.

No connected history of the kindergarten work of the last twenty years has been published, and it is not in the province of this paper to attempt it, as, in order to do approximate justice to the many laborers, a great amount of research will be necessary, and, when written, the matter will be too great to have a place in this brief work. Those who desire to trace the growth of the kindergarten in this country will find much information in Dr. Barnard's "Kindergarten and Child Culture," and in the files and current issues of the journals devoted wholly or in part to this branch of education.

It was Fröbel's opinion "that the spirit of the American nationality was the only one in the world with which his creative method was in complete harmony," but it was not until 1856 that the first articles upon it were published here by Dr. Barnard, of Hartford, in his *Journal of Education*; and, soon after, Miss Elizabeth Peabody made, at Boston, the first attempt at kindergartening in America, and began to write about it. Following these pioneers have come many faithful workers in, and liberal contributors to, the support of the kindergarten throughout the country. In 1877, the American Fröbel Union was formed in Boston, through

the efforts of Miss Peabody. Its funds came from the twelve originators, who contributed, in sums of from fifty to three hundred and fifty dollars, the means for the several publications which it made, and for other work done by the society. After doing this work, the Fröbel Union was merged in the Fröbel Institute of North America, which had been founded through the efforts of Mr. W. N. Hailmann, in 1882, and of which he was made president. In 1884, the Fröbel Institute met with the National Educational Association, at Madison, and a kindergarten department was established in that association, in answer to a petition signed by a large number of the prominent members.

There are now training schools and kindergartens scattered from Maine to California, in nearly all of the Northern and Western, and some of the Southern States. In them many able women are conscientiously trying to carry out Fröbel's theory in Fröbel's spirit. The best among them are working from principles and not from rules. If those who work in this spirit are led, by the needs of differing times and circumstances, into new methods of applying principles, these adaptations will be safe. But it is plain that this must not be attempted by those, who, because they do not see the depth of Fröbel's thought, vainly imagine that they can improve upon it. To do this they must, at least, be able to distinguish principles from rules, and, until they are, it will be safer to follow Fröbel blindly than to differ from him blindly.

Much has been done to spread information in the Summer Schools, and the post-graduate training and

refreshing of kindergartners who have gathered in them has been a work of great value. They are also a means of giving a general knowledge of the system as preliminary to detailed work, which involves the study of the theory, the plays, the gifts and occupations, from the stand-point of the child, in connection with practice in the kindergarten, for which a year is none too long.

At meetings of the National Educational Association, resolutions have been adopted recommending the kindergarten "as a potent means for the elevation of primary education and the promulgation of the principles of sound educational psychology," and urging upon the attention of all practical educators and boards of education, the importance of connecting the kindergarten with our current educational system. Words like these, from such a source, will doubtless lead to many attempts to make this connection, and although the understanding and appreciation of this revolutionary system will, perhaps, come slowly, it must come at last. The Rev. Heber Newton, in his paper on the kindergarten in church work, speaks words of caution lest the system be spoiled, in making it a part of the public school system. He says: "True also the State may be appealed to for pre-primary schools, and may engraft the kindergarten upon the common school, and thus relieve the church of this charge. But, if what has been said commends itself to the minds of the clergy and those interested in church work, it will suggest to them strong reasons why the church should not seek to be relieved, should be even positively unwilling to be thus relieved, and should hasten to occupy the ground with church kindergar-

tens. So fine and delicate a work, in the most plastic of all material, by the most personal of powers, seems greatly jeopardized by being made part of a cumbrous official system. It may hold its subtle spirit within this sphere, but there is great risk of an unconscious lowering of tone, an insensible evaporation of the spirit of the kindergarten in the routine working of its mechanism. Above all other branches of education, it needs to be fed from the deepest springs of motive power, to be tided with a holy enthusiasm, to be made a real religious ministry. And because, with all its defects in other respects, the church best supplies this spirit which is the vital essence of the kindergarten, I hope to see it taken up by the churches. The nurture of early childhood is so pre-eminently the special task of the church that I am persuaded she needs only to understand this blessed institution to claim it, as the development of that Spirit of Truth who is ever revealing to men, as they are able to bear them, the things needing to be done for the health of humanity, for the perfecting of the body of Christ."

This caution may well be heeded by all, who, as philanthropists or members of school boards, are working for the extending of the kindergarten.

Fröbel once said, "It will be centuries, before my view of the human being as a child, and of its educational treatment, can be generally accepted." Nearly half a century has passed since the first kindergarten at Blankenburg. In it something has been done, enough to encourage and cheer those who see in this work the promise of good for our time and for all times.

THE
Theory of Fröbel's Kindergarten System.

BY ANGELINE BROOKS.

In the following pages an attempt has been made to state briefly the theory which underlies Fröbel's Kindergarten System. The order of thought is as follows:—

1. Education defined.
2. The human being to be educated physically, spiritually, and morally, this education involving the discipline of the will and the cultivation of the intellect.
3. The importance of early education.
4. The means to be used in early education,—*symbols*.
5. The law to guide in the use of these means,—*the law of unity*.
6. The results to be expected,—*harmonious development leading to spontaneous activity*.
7. These results made possible because sought through the only activity that is natural to children,—*the activity of play*.

* A KINDERGARTEN is a garden of children,—that is, a place where young human beings are nourished and cared for, as plants are nourished and cared for in a garden. Plants will grow well only in a good soil and with sunlight and moisture, and they need pruning and training to promote symmetry of growth and perfection of fruit and flower. So young human plants require right conditions for growth, and need care and training that their growth may be symmetrical and that the ripened fruits of character may in proper time appear. This statement contains the whole kindergarten idea. The questions what are the right conditions for symmet-

rical growth and how to supply those conditions are all that the kindergärtner needs to ask. This statement leads to the question,—

1. WHAT IS EDUCATION?

Education is a setting free of the powers of the individual; it is development guided and controlled. That which does not exist cannot be developed. We cannot draw out that which is not already within. Development is induced through activity, and the possibility of misdirected activity makes the necessity of education,—that is, of activity directed and controlled.

Education is a growth from within, not a filling up from without. The gardener takes the seed as it comes to him from the hand of the Creator, and, placing it in a good soil, seeks to surround it with the best conditions of growth, but he does not expect to determine what the perfected plant shall be. His highest hope is to bring it to perfection,—that is, to develop all its possibilities, that so he may discover what was the thought of God when He made the seed.

When the fullest development of all the powers of the human being is reached, when the most and best is made of every faculty, then shall we see the ideal man.

How can we learn the possibilities of the human being? Place him in right conditions, and let him grow; then will be manifest what was God's thought when He made the human soul. Right conditions! These words are easily spoken, but what immense questions they involve, and into what wide fields of thought and investigation the attempt to answer these questions leads us!

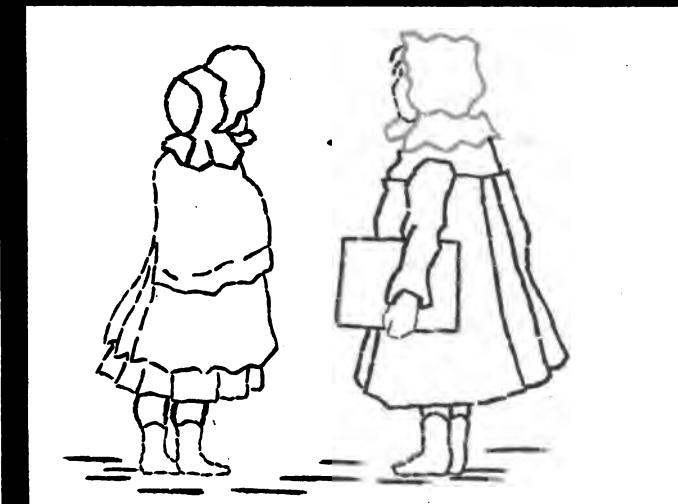
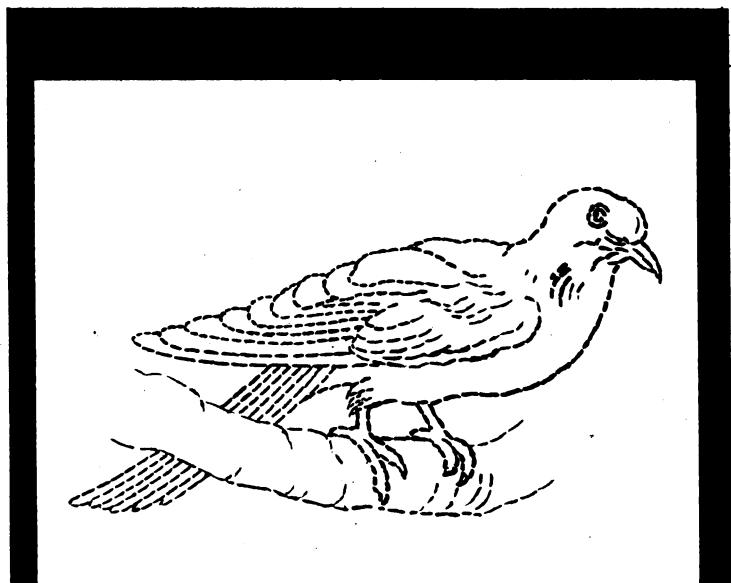
2. THE HUMAN BEING TO BE EDUCATED PHYSICALLY,
SPIRITUALLY, AND MORALLY, THIS EDUCATION INVOLVING THE DISCIPLINE OF THE WILL AND THE CULTIVATION OF THE INTELLECT.

When we come to the study of the child with reference to his necessities and possibilities, we find that he sustains relations to nature, to God, and to humanity.

As to his physical frame, he is directly related to the material world,—is a part of it. His body is formed of its elements, is subject to the same chemical laws, and when it is no longer tenanted by the soul it goes back to the dust whence it came. It serves a temporary use as a dwelling-place for the soul during its first stage of education; but the real meaning of the child's life is found only when he is considered in his relations to God, from whom he came and to whom he returns. The old theories of the astronomers were false because they did not place the sun in the center of the solar system, and just as truly is any plan of education false which does not recognize God as the sun and center of each individual soul.

The Baroness Marenholtz* says, "Fröbel saw fully expressed in Christianity the recognition of the unity of humanity with God (as the child of God), as he has said in one of his essays: 'The Christian religion entirely completes the mutual relation between God and man: all education that is not founded on the Christian religion is one-sided, defective, and fruitless.'"

* The Baroness Marenholtz is referred to as authority, because, as has been stated in the previous chapter, she has been Fröbel's interpreter to the world.



EMBROIDERY—Sewing Cards.

In his relations to his fellows the child is a social being. The human race as a whole is an organism and constitutes society, a fact which we unconsciously admit in our every-day language. It is no mere figure that is used when we speak of the *body of humanity*, and just as we individualize nations and speak of *John Bull* and *Brother Jonathan*, so do we include the whole human race in one great personality in such expressions as this:

“The world, redeemed from superstition’s sway,
Is breathing freer for thy sake to-day.”

No one can live an entirely isolated life. The necessities even of man’s physical being cannot be met except by the ministrations of others. He who considers himself most independent of others is the one who in fact depends upon the greatest number. For the supplying of the table, the clothing of the body, the furnishing of the house, thousands of willing hands must contribute, and the resources of all lands and of the sea be made tributary. The picture which the hermit in his cave presents to the world is sufficient proof that man is in the divine order only when living in harmonious relations with his fellow-man.

If this be true of life on the material plane, how much more so of our necessities on the higher planes of thought and affection! Stagnation of intellect from want of mind to meet mind is more disastrous than stagnation of trade, and the “hunger and thirst of the heart” for want of loving and sympathetic companionship is more fatal than hunger and thirst of the body. He has the deepest and strongest intellectual life who

traffics most constantly in intellectual wares, who in reading and conversation takes in thought from others, and by voice or pen imparts it to his fellows. To love our fellow-beings and to be loved in return is a necessity of the soul as real as that of air for the lungs.

The child is born to three relationships,—to nature, to God, and to his fellow-man,—each of which involves necessities, duties, and the possibilities of failure. He begins life at the bottom,—at first has no possession of his bodily faculties, nor of his intellectual and spiritual powers. He needs education in each of these directions.

Fröbel had in mind this comprehensive idea of the work to be done when he set himself to develop a theory of education. The kindergarten he intended to be a practical school in which the child should get physical, moral, and spiritual culture. In the true kindergarten this threefold object is never lost sight of, for to neglect any side of it is to do less than Fröbel's theory requires. He intended the kindergarten to be an epitome of life, in which the great world of grown-up people should be represented in miniature. "We learn by doing" was a favorite motto of his, and, true to this thought, he developed a system through which the fundamental principles of morality should be learned by actual experience, and the child be led to look up with loving reverence to the heavenly Father, who in the true kindergarten is kept "always in the midst." As a basis for this moral and spiritual culture, the physical well-being of the child is the object of constant attention.

All the discords of society arise from man's ignorance of the way to adapt himself in just relations to his fellow-man, or, if not from his ignorance, from his unwillingness to do so. To train the child to the practice of honor and justice with children of his own age, is to lay the foundation of a just and honorable character. To develop in him love for others and a willingness to sacrifice himself for them within proper limits, is the chief object of the true kindergärtner.

The kindergarten takes the child from the nursery and introduces him into a community of his equals, in which the usual collisions of child life are constantly occurring, in the adjustment of which he gets experience that has much to do with the formation of character.

He learns to respect the rights of others and to be himself self-asserting when need requires. He is treated justly and tenderly, and learns to treat in the same way those younger or weaker than himself.

That the child's relations with his fellows are important, and that there is need of guiding him in those relations, are ideas not readily received by those who have thought of the intellect alone as requiring culture, at least in the schools. The prevailing idea has been, and still is, that the training of the intellect is the chief work of education. This is a serious mistake, for in moral and spiritual culture the will is especially involved, and to strengthen the desire of right willing is at least as important as to increase the capacity to know. The kindergärtner believes that to lead the child *to love that which is good and true* is more important than to

fill his mind with stores of knowledge, for simply to know the right is not enough; he alone does the right who loves to do it. We are sorry if our neighbor is an ignorant man, we are still more sorry if he is an unamiable man.

The necessity of early discipline of the will is expressed by Fröbel in these words: "We wish to create for children a practical school in which they shall learn to act according to the prescriptions of pure Christianity, that is, according to the commands of God, before they learn these prescriptions and commands as dogmas. Such exercise in doing will bring that experience which Jesus required when He said, 'If any man will do His will, he shall know of the doctrine, whether it be of God, or whether I speak of myself.'"

At the outset the kindergärtner is confronted by the necessity of studying deeply the two great forces which lie back of every act of the child's life. He who would manage a steam-engine must know what the motive power is and how to control it.

3. THE IMPORTANCE OF EARLY EDUCATION.

Fröbel, having set for himself so comprehensive a task in education, saw that he must begin with the youngest children, with the babies, and before we can witness the fullest illustration of the value of his system, mothers and nurses must adopt its methods and be imbued with its spirit. Helpless infancy, without the power of resistance to either physical or spiritual evils, must be guarded tenderly, lest from wounds *thus* early received there remain life-long scars, and

the seed-sowing from which shall spring the fruitage of future life must be done by judicious hands.

The first seven years of the child's life Fröbel saw to be the most important for purposes of education; for, as he said, during that time tendencies are given and the germs of character are set. No impressions stop with the body: all enter the soul. A body untenanted by a soul receives no impressions.

The child enters upon life a mere bundle of possibilities. Shall we leave him to make growth as best he may for the first five years of his life? In regard to his physical necessities there is no question. No other young animal is so helpless as a young human being. Alas that these urgent needs of the body should be all that many parents provide for!

To direct the *tendencies* of mind and heart, to prepare the mind to love truth and goodness, to lay broad and deep the foundations on which the future educator may build in beauty and strength,—this is the work of the mother and the kindergärtner. The wisest parents are those who are quickest to see the tendencies of their children for good or for evil, and who are most judicious in using stimulus or preventive, as the case may require.

The kindergarten is the only institution, except the family, that seeks to educate children under school age; but the necessity of such early training in loving and doing the right is plainly shown by the fact that many children enter school with evil tendencies strongly developed and evil habits firmly fixed. There is a work, both of prevention and of up-building, which may be

done before school age, and the omission of which at that time can never be made up. It is unwise to overlook the earliest seed-time. In these days, when so much is to be feared from the ignorance and unbridled passions of the lowest classes of society, the kindergarten offers itself as one most potent preventive of the dreaded evils, and this chiefly because it, as no other means does, begins with the babies.

On one occasion, addressing the Baroness Marenholtz and certain distinguished educators of the time whom she had brought to him to hear his theories, Fröbel thus expressed himself in regard to the importance of the earliest education:

“Every age of life has its own peculiar claims and needs in respect to nurture and educational assistance, appropriate to it alone: what is lost to the nursling cannot be made good in later childhood, and so on. The child, and afterward the youth, have other needs and make other demands than the nursling, which must be met at their proper ages,—not earlier, not later. Losses which have taken place in the first stage of life, in which the heart-leaves—the germ-leaves of the whole being—unfold, are never made up. If I pierce the young leaf of the shoot of a plant with the finest needle, the prick forms a knot which grows with the leaf, becomes harder and harder, and prevents it from obtaining its perfectly complete form. Something similar takes place after wounds which touch the tender germ of the human soul and injure the heart-leaves of its being.” At this point, turning to his pupils who were *present*, he said, “Therefore, you must keep holy the

being of the child; protect it from every rough and rude impression, from every touch of the vulgar. A gesture, a look, a sound, is often sufficient to inflict such wounds. The child's soul is more tender and vulnerable than the finest or tenderest plant. It would have been far different with humanity if every individual in it had been protected in that tenderest age as be-fitted the human soul which holds within itself the divine spark.

"The first impressions which a young child receives are stronger and more lasting than those in later life, because that power of resistance is then wanting which its later consciousness brings. As the thriving of the child's body depends in a great measure upon its breathing pure air, so the purity and morality of the soul depend partly on the impressions which the nursling and child receive. The careful nursing of the inner spiritual life must begin much earlier than the expression of it is possible, before its tender susceptibility is disturbed by outward influences. This tender susceptibility requires a tender handling, or it is in a certain sense choked, as if I should cover the growing roots of this little plant I have here with sand. No development can be forced in nature, still less in the human mind. With right care everything blossoms in its own time. If I forcibly tear open this poppy bud, its fine folded leaves may be seen, but the flower will not unfold; it withers within. In the same manner many a child's soul, artificially and violently broken into, will wither within, be despoiled, and at least will not bear the fruit it was destined to bring forth.

"Now, what can we do for the unfolding of these heart-leaves of life, which contain the whole future man, with all its future tendencies? We must launch the child from its birth into the free and all-sided use of its powers. That is just the aim of these plays and occupations which exercise the yet unseen powers of the nursling on every side. But we must not, as is often erroneously done, take care only of the bodily powers by exercising merely the senses and limbs, and then later, when the school period arrives, make the intellectual powers alone act; but steadily, and during the whole period of childhood, body and mind should be exercised and cultivated together. The mind develops itself in and with the organs that are inseparably connected with it in the earthly life. Child's play strengthens the powers both of the soul and of the body, provided we know how to make the first self-occupation of a child a freely active, that is, a creative or a productive, one."

4. THE MEANS TO BE USED IN EARLY EDUCATION,— SYMBOLS.

Fröbel embodied his ideas of the means to be used in early child culture in the remarkable book, "The Mother Play and Nursery Songs." "This book," the Baroness Marenholtz says, "he made the foundation of his lectures to kindergarten teachers, and over and over again repeated, 'I have here laid down the fundamental ideas of my educational theory: whoever has grasped the pivotal idea of this book understands what I am aiming at.' " This book has not been generally used by those

who have trained kindergärtners in this country, as there was no English translation of it until the year 1879. The work entitled "The Child," by the Baroness Marenholtz, is the text-book from which Fröbel's theory has chiefly been obtained.

A few years ago Miss Blow, of St. Louis, took up, with the kindergärtners of that city, a study of "The Mother Play and Nursery Songs" in the German. As a result of this study a book was produced, entitled "Merry Songs and Games for the Kindergarten," which was prepared by Mrs. Hubbard. It was found necessary to omit some of Fröbel's songs, as being too strictly German to be adapted to the American child, and some songs gathered from other sources were added, but all, it is believed, in harmony with Fröbel's spirit.

Valuable as is Mrs. Hubbard's book, no student of Fröbel's system can afford to overlook his "Mother Play and Nursery Songs." To the average reader it appears at first sight trivial and absurd, but whoever will study it with the key to its meaning will find in it a very profound philosophy. As to its meaning the Baroness Marenholtz says, "The key-note of the book is the analogy between the development of humanity from its earliest infancy and the development of the individual." Fröbel not only studied the child, he also studied the history of the race. He was especially interested in everything that had reference to the earliest childhood of the race in its strivings after culture, and saw that the race is epitomized in the child. He saw that as the race began in utter ignorance of itself and of its surroundings, and came to physical, moral,

and spiritual culture through successive experiments and experiences, so the child begins with everything to learn, and comes to the possession of himself and of the world around him, and learns to adjust himself to his relations in life, through corresponding stages of development; and he logically arrived at the conclusion which he expressed in these words: “The development of the child requires the same series of steps in the child as the development of the human race,—that is, *it must be done as God Himself has conducted the education of the the human race.*” But he adds, “We can spare our children the details of experiments which mankind has passed through, if we educate them aright. They must, indeed, become wise through their own experience, but they need less rough experience.” He saw that the primitive man had been educated chiefly through symbols, “had needed and dwelt in symbols,” and, finding in the child a corresponding tendency, he concluded, as Aristotle had done before him, that “man is a symbol-making creature,” and thus he found the true means of education. He said, “The undeveloped mind needs sensuous perceptions, the visible signs, in order to arrive at an understanding of truth. As the savage needs his fetich, as the people of antiquity in a higher stage of culture personified their ideas in the form of their gods and in various allegories, as even the Christian church does not attempt to make itself understood without symbols, *so the deepest need of childhood is to make the intellectual its own through symbols or sensuous forms.*”

An illustration of what is meant by saying that the *child* develops as the race has done may be found in

an incident which occurred recently in a kindergarten. A little girl said to her teacher, "Is there lots of sunshine where you live?" To this the teacher replied, "Oh, yes; a great deal of sunshine." The child then said, speaking slowly and pausing thoughtfully between her sentences, "Sunshine makes the yellow flowers grow,—sunshine makes all the flowers grow,—sunshine makes the trees grow,—sunshine makes everything grow," and then added, with great reverence, "Sun is God, God is sun!" In her childish ignorance, she had come to the same conclusion which the fire-worshiper of ancient times, in his ignorance of the God of revelation, had reached.

Miss Blow, in her introduction to "Merry Songs and Games," says, "We find that the earliest forms of religion and art are always symbolic." She refers her reader for definition and illustration of symbolism to Hegel's "Philosophy of Art," and adds, "The symbol is a sensuous object which suggests an idea. Our hearts leap within us at sight of the American flag, because it is the symbol of our nationality, and are hushed into devotion by the cross, because it is the symbol of our faith."

Fröbel said, "If we wish to foreshadow fundamental truths to infant minds, we must present them *in symbolic forms*, and also devise some means for enabling the child to give them symbolic expression."

To see how he carried out this idea in his "Mother Play and Nursery Songs," it is necessary to get at his idea of the symbolism of things. He said, "All natural phenomena are the signs of spiritual truth *to which they give expression*: thus they may be called sym-

bols." In another place he says, "It is quite a different thing whether we look upon concrete things and facts as merely material, the things and facts serving this or that outward purpose, or contemplate them *as the outward forms of spiritual contents, as the intermedia of higher truths and higher knowledge.*" In such manner the inconspicuous products of the kingdoms of nature serve the investigator of nature to discover facts which lead by syllogistic reasoning to the highest scientific knowledge. In this sense the material world is a symbol of the spiritual world; and it is in this sense that education needs to use it, especially for the purpose of leading the child to the ultimate cause of all things,—God."

A striking illustration of this thought of Fröbel's is found in the use of figurative language. We speak of warm hearts, glowing words, dark deeds, lofty purposes, deep insight, near friends, wounded hearts, cutting sarcasms, bitter reproaches, stinging reproofs; in fact, it is impossible to express intellectual and spiritual truth except by means of words derived from the qualities of things.

Emerson says, "What men value as substance has a greater value as symbol. The whole world is thoroughly anthropomorphized, as though it had passed through the mind of man and taken his mold and form; the huge heavens and earth are but a web drawn around us; the light, skies, and mountains are but the painted vicissitudes of the soul."

The thought which Fröbel everywhere expresses is that things of the spiritual world are related to things of the natural world by *correspondence*, and that things

of the natural world are related to one another by *analogy*. Here we find the meaning of his often-repeated words, *unity of life*. To him they were words full of important truth; indeed, they furnished the key to his whole system.

To develop a system of education which should be in accordance with nature had made a thorough study of nature necessary, and with childlike docility Fröbel had set himself to the task. As a result of his studies in all departments of science he came to see an underlying unity in all the works of the visible creation, that each of the three great kingdoms of nature is a whole, that each is related to the others, and that all find their consummation in man. In reaching this conclusion Fröbel was but anticipating the work of modern scientists, for it is towards the discovery of underlying unity that their vast researches tend. An English writer speaks of the "grand consanguinity of all knowledge arising from the unity of nature," and the same writer says, "No portion of nature is truly intelligible till its analogies with the other portions are investigated and applied." In another place he says, "The beginning of philosophy is the study of differences; but we climb to that beautiful Olympus where simple and essential truths reside, the heaven of all the other spheres of knowledge, by comparing and deducing resemblances."

The three kingdoms of nature stand in close relation to one another. Broadly, it may be said that plants feed upon minerals, and animals feed upon plants. Then, again, each kingdom prefigures the one above it. The

mineral kingdom in some of its beautiful crystalline forms foretells the vegetable world. Silver and copper, for instance, in crystallizing often assume shapes strikingly suggestive of vegetable forms, and the frost-crystals of the window-pane and of the pavement are sometimes almost perfect reproductions of certain mosses and ferns. Crystalline forms are also seen in the cell of the honey-bee and in the hexagonal facets of the eyes of insects, and in innumerable other instances the connection between the different kingdoms of nature is seen.

So close is the analogy between the vegetable and animal kingdoms, that, taken together, they may be said to form a whole. The respiratory and circulatory systems and the digestive organs of the human body have their analogues in plants. The members of both kingdoms have their allotted periods of growth and of maturity, and both are subject to the law of death and decay.

The underlying unity of all plant life is now fully recognized, and all the marvelous varieties of vegetable growths are reduced to root, stem, and leaves. Indeed, the leaf itself may be taken as the plant unit, to which root and stem are but accessories. Goethe first suggested this theory, and science now fully confirms it.

The animal kingdom, like the vegetable, is a grand whole, for between the most microscopic animalcule and the largest quadruped there is no essential difference as to structure and modes of life. It is in man, as the crowning work of creation, that the key to all other works of creation is found. Of him they all

prophesy, for him they all prepare. St. Paul expressed this truth in the words, "The earnest expectation of the creation waiteth for the manifestation of the sons of God," and the meaning and use of all this multiplicity of created things are thus expressed by the same comprehensive mind: "The invisible things of God since the creation of the world are clearly seen, being perceived through the things that are made, even his everlasting power and divinity."

It is because man is thus related to nature that he can understand nature and can be educated through nature: indeed, the study of the three kingdoms of nature is the best preparation that man can make for the understanding of his own life, since in nature man sees himself reflected as in a mirror.

The Baroness Marenholtz says, "In all the kingdoms of nature there is but one and the same law, which governs alike the heavenly bodies and the smallest stone, the lowest animal and the noblest human being, for all have the same origin and the same creator, God. And it is because the Spirit of God lives in nature and in the human soul that man is able to understand nature. Only when there is mutual analogy is mutual understanding possible; and this understanding, this finding out of analogies, must be arrived at, *if man is to acquire a deeper knowledge of his own being.*"

Fröbel said, "Children must first read the book which God Himself has given humanity to read in its childhood,—namely, the world which He has created, and in which He has manifested His divine thoughts."

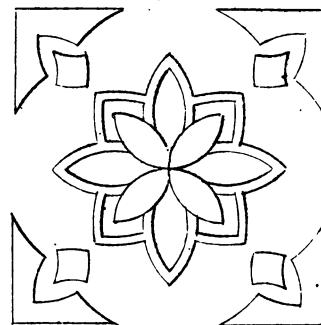
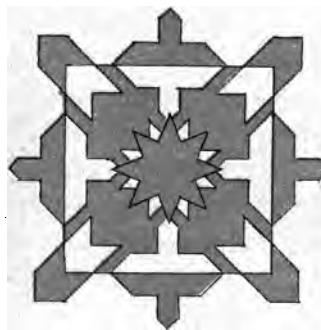
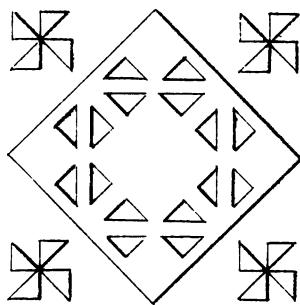
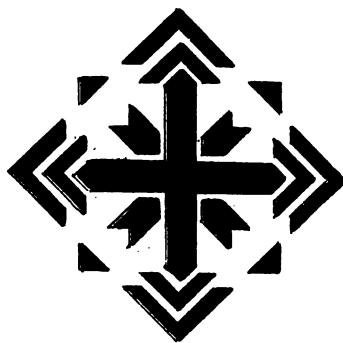
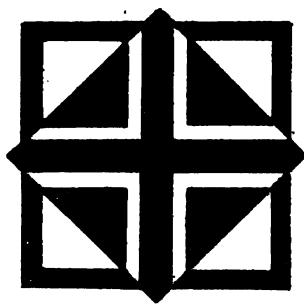
Man stands between the Creator and created things

to be educated by them for companionship with Him. Fröbel, having this high ideal of education, saw that through *things* man must be educated to the *apprehension of truths of which things are symbols*, and therefore he desired to bring the child into contact with nature.

With reverent thought he recognized the fact that the whole external world is only a school-room, in which the Great Teacher would fit His children, the human race, for the realities of the life beyond. These furnishings of the great school-room of life he regarded as God's *gifts* to us, His loving provision of means for our education. Out of all this multiplicity of objects adapted to man in his various stages of development, he chose a few elementary forms in which are expressed all the properties common to material things, and called them *kindergarten gifts*.

The same deep thought underlies the kindergarten *occupations*, which differ essentially from the *gifts*.* The whole education of man comes through activities that are conditioned upon material things. It has been so with the race, and it is just as true of each individual. The law of the Great Teacher is, plainly, that His pupils shall *learn by doing*. It was no arbitrary command that was given to the primal man when he was told to subdue the earth; it was the divinely-appointed means by which he was to come to the development of his inborn powers. To protect himself from hunger, cold, and nakedness, and to meet the higher social and

*A somewhat detailed account of these *gifts* and *occupations* is given in the next chapter.



PAPER CUTTING AND PASTING.



intellectual needs of his being, man has cultivated the soil, has built houses, has woven fabrics for the materials of which he has laid under contribution the vegetable and the animal world, has delved in mines and crossed seas, has toiled in all industries and arts, and by so doing has come to his present physical and intellectual development. Seeing God's laws ruling in all nature, the reverent worker finds the means of the highest spiritual culture in thus obeying the law of his being.

Man can express himself only in material things. The savage uses what he knows of nature in the expression of himself which he makes in his surroundings, and the scientist and the artist do the same.

In the kindergarten there are *occupations* corresponding to these activities of the greater world of grown-up people.

Fröbel said, "A correct comprehension of external, material things is a preliminary to a just comprehension of intellectual relations." Again, "The first educational task is to make the child acquainted with the things of the material world, which constitute the basis of the abstract. Knowledge of material things can be had only by handling them, and the formation and transformation of material constitute therefore the best mode of gaining this knowledge for childhood."

Fröbel's kindergarten gifts may be described as *selected symbols*, the primer of the language of nature. He thus gives his reasons for this selection: "The still unthinking mind of the child can be awakened and taught only through symbols, or the higher mental

images. Natural phenomena furnish these symbols, but not in the elementary form which corresponds with the still unarticulated simplicity of the child's soul. *They must first be selected out of the great manifoldness of things, by the thinking mind.*"

In another place he says, "The incentives which are needed for awakening the powers of the soul go out from the external world; and these must not be left to chance at this stage of human development. Chance is blind; education is to act with its eyes open. It was necessary to bring light upon the great chaos in the beginning of creation, and God said, 'Let there be light!' Chaos still encompasses every human eye that wakes into life, for a chaotic world veiled in darkness surrounds the new-born child. The task of education is to bring light into this darkness, order into this chaos.

"But how shall this be done? The senses are to be awakened as organs of the mind, and not as organs of mere sensuous pleasure, or of mere desires, as in the animals. Yet that is what happens if we aim at bodily nourishment alone without giving food to the mind. This need never happen to the child of the present day.

"Now, I wish to find the right forms for awakening the higher senses of the child. I must ask the whole organism of creation, the whole universe, for them. I must go back from the particular to the general, which contains the particular, and furnishes the typical or fundamental form for the manifold phenomena of creation. Then come the properties which are common to all things, and without which there is nothing knowable. I must seek objects in which the universal prop-

erties of form, color, size, weight, movement, etc., are to be perceived, one by one, and strikingly shown.

"For this purpose I have not only forms for the child's eyes, which are to make him acquainted with the outward world which surrounds him; I have *symbols* which unlock his soul for the thought or spirit which is innate in everything that comes out of God's creative mind. If the ripened mind is to know and understand this thought, its embodied image must make an impression upon the yet unconscious soul of the child, and leave behind it forms which can serve as analogues to the intellectual ordering of things."

Fröbel's games abound in representations of animal life and of the phenomena of the external world. Thus the child is sometimes a bird, sometimes a fish, sometimes a frog, or he imitates the whistling of the wind, the patter of the rain, the falling of the snow, the rushing of the stream. In this way he is brought directly into sympathy and acquaintance with nature, and what he thus imitates he learns to understand and to love. Prefixed to each of the games in "The Mother Play and Nursery Songs," is a motto for the mother, explaining the thought that underlies it. In no case are the mottoes intended for the children. It is not supposed that they will understand the reason for the pretty play.

In the game of "Play with the Limbs," the thought for the mother is—

"When first the child delights to try
What strength within his limbs may lie,
The mother's nursery play begins.

'Tis a hint from heaven
 Unto the mother given,
Through outward, inner life to waken,—
 Through play and thoughtful sport to quicken
 The sense that feeling, foresight brings."

In the "Song of Taste" the motto is—

"Ever through the senses Nature wooes the child ;
 Thou canst help him understand her lessons mild.
By the senses is the inner door unsealed ;
When the spirit glows in light revealed,
Through the senses the child's soul lies open ;
 Keep the impressions pure, whate'er may happen ;
 Many a care in life shall lighter seem,
 And life more joyfully, serenely beam."

In the song of "The Little Gardener" the motto is—

"Wouldst thou the mind of the child for the cares of life unfold,
 Let him observe the life-scenes here unrolled ;
 Wouldst thou for cares of inward life prepare him,
 Make sweet to him the life-cares that are near him."

Not only is the child's relation to nature represented in these games, but his home life is symbolized and his social relations are made much of; in short, his whole life is epitomized in the representative games of "The Mother Play and Nursery Songs."

It is not only by means of the games and the technical gifts and occupations of the kindergarten that an acquaintance with nature and a love for it are fostered, but the songs also are full of the poetry of nature, and the story-tellings and conversations often lead the child's thought in the same direction. It is very desirable that a kindergarten should be in the midst of a garden, or, better still, in the open country; but when this is im-

practicable the true kindergärtner surrounds the children as much as possible with natural objects, bringing from field and forest such things as will rouse their curiosity and lead them to love the Author of nature. The observation of sky, sunshine, and cloud, of the winter buds of trees and shrubs, of the sprouting of the seed, of the growth of the little plant, of the beauty and fragrance of the flower, and the lessons of the home-life of the bird's nest, may all be made means of both intellectual and spiritual culture. Children are quick to read the parables of nature. Fröbel said, "As humanity in the dawn of its existence apprehended clearly the language of nature, so in the thousand voices of nature does the child hear God speaking to it." No one who understands children and lives much with them can fail to see the truth of this statement.

5. THE LAW TO GUIDE IN THE USE OF THESE MEANS,— THE LAW OF UNITY.

We have thus far considered what is included in the education of the human being, and the means to be used in accomplishing the desired end. To guide in the use of these means Fröbel announces *an educational law*, and declares that his method stands or falls upon the recognition or the non-recognition of it. This law is *the law of unity.**

* In Fröbel's writings, and in those of the Baroness Marenholtz, the law we are considering is sometimes spoken of as the *law of the connection of opposites*, sometimes as the *law of contrasts and their connections*; it is also called the *law of harmony*, the *law of equilibrium*, and the *law of unity*. Of these, the term *law of unity* is preferred, as being most comprehensive, and, therefore, expressing most clearly what Fröbel had in mind when he announced his *educational law*.

This law Fröbel saw to be in operation in every plane whether of mind or of matter,—the one underlying law upon the action of which all things are conditioned. He was not the first to recognize the universality of its operation, but he was the first to apply it in an educational scheme, and it is his application of it that gives him the right to call his method *a system*. He said, “The worth of my kindergarten materials is found exclusively in their application,—that is, in the method in which I use them. But this method consists in the application of the law of contrasts and their connections. *The whole meaning of my educational method rests upon this law alone.*”

In developing his educational system, Fröbel at every step of the way looked to nature for guidance. In speaking of directing the child in his attempts at creative activity, he says, “Where shall we take the rule, if not from nature? We mortals can only imitate what the dear God has created: therefore *we must make use of the same law according to which He creates*. With this law I give children a guide for creating, and, because it is the law according to which they, as creatures of God, have themselves been created, they can easily apply it. It is born with them, and it also guides the animal instinct in its activity.”

Illustrations of the operation of *the law of unity*, obvious to the most careless observer, abound everywhere, while the searcher after nature’s secrets finds the same law working in all her most hidden processes. It is the balancing of centrifugal and centripetal forces that *keeps the heavenly bodies in their unvarying paths; it*

is the united action of the heat and light of the sun that gives life and fertility to the earth; it is by the balancing of waste and repair through the wonder-working chemistry of nature that the ever-returning wants of the vegetable and animal world are supplied, and the face of the earth renewed continually. The disintegration of all material things would result should the action of *the law of unity* be for one moment suspended.

The law of unity underlies all formation in the works of nature and all construction in the works of man. The bird builds its nest in obedience to it, bringing together scattered sticks and straws and weaving them into a whole, and man makes a dwelling for himself by bringing together and subjecting to one unifying thought and purpose, through the skilled labor of unnumbered hands, the products of the quarry, the mine, and the forest. The arch illustrates the law we are considering. It derives its unity from the keystone, which enters as a wedge and connects the opposite parts. The truss of architecture is another illustration of the same law, its use, like that of the keystone, being based upon the fact that "action and reaction in opposite directions are equal."

All the industries and arts are only applications of *the law of unity*. The farmer by his activities puts in operation the chain of causes that must intervene between the seed and the harvest. The manufacturer and the merchant bridge the gap between the producer and the consumer, and ships and railroads, telegraphs and telephones, unite places and peoples that would otherwise be separated. Terrible famines have recently de-

vastated some parts of India because there was no available means by which food from the overflowing granaries of the Western world could be carried to the starving millions of the East. Nothing is of any value so long as it exists in isolation, and nothing is fully understood until its relations to all other things are seen.

To apply in education *the law of unity* had been Fröbel's thought long before he conceived the idea of the kindergarten. In "The Education of Man," written nearly ten years before the opening of the first kindergarten, it is constantly referred to as the one guiding law in education. In one place he says, "Nothing whatever is truly known unless it is compared with the opposite of its kind, and the points of agreement and resemblance detected; and knowledge is complete in proportion to the thoroughness of the process of comparison and discovery." Again he says, "Never forget this: It is not by teaching and imparting a mere variety and multitude of facts that a school becomes a school (in the true sense), but only by *emphasizing the living unity that is in all things.*"

Fröbel thus states his idea of what the school should be: "School is the effort to acquaint the pupil with the true nature and inner life of things, and to bring him to a consciousness of his own inner life and nature; to acquaint him with the real relation of things to each other, and also to mankind, to the pupil himself, and to the living ground and self-conscious unity of all things, *i. e., God;* so that these relations may be a living reality to his consciousness. The aim of instruction is to give *the pupil an insight into the unity of all things,* how

they live, move, and have their being in God, for the purpose of applying this insight to practical life and work; the method and means to this end is instruction, the very process of teaching." He defines the school-master as "one who is in a position to demonstrate the *unity of things.*"

That the way pointed out by Fröbel is the natural and, therefore, the right way of presenting subjects, is shown by the delight with which children work in accordance with it. Related opposites being given, the child will look with the greatest interest for the intervening links that connect them. He will go at once from things that he sees and handles to God, the Cause of all, and then will ask with eagerness to be shown by what means the Cause has produced the effect.

Fröbel took a comprehensive view of this subject when he said, "What other objects of our knowledge exist but God, man, nature? What other task can our intellect have than to find the relation between these three sole-existing objects?"

God, the Self-existing, expresses Himself in unconscious nature. Man stands between God and nature. For man nature exists, and through the knowledge and use of nature man is led up to God; for, as Fröbel said, "Creation is the embodied thought of God."

The Baroness Marenholtz says, "By and by Fröbel's educational law will be accepted as distinctly and independently as Newton's law of gravitation." When that time comes, things and events will be presented to the pupil in their natural connections; history will not be taught as a mere patchwork of battle-scenes,

and scientific study will be something more than the collecting of disconnected facts.

In his second kindergarten gift, Fröbel puts into the hand of the baby an illustration of his educational law. This gift consists of a ball, a cube, and a cylinder, all of wood. The ball and the cube are exactly in contrast as to their form. The ball has only one surface, and has neither edges nor corners. The cube has many faces, many edges, and corners. The ball has always a tendency to motion, but the cube to rest, for the ball rests on a point and the cube on a face. The ball is always seen as a ball, no matter how it may be placed or moved; the cube, according to its position, presents various appearances.

The cylinder entirely reconciles these contrasts. It has one curved surface, like the ball, and two flat surfaces, like the cube. Like the ball, it has no corners, but, like the cube, it has edges. It can roll on the curved surface, like the ball, or stand on a flat surface, like the cube, or it can rest on a line, which is the connection between the surface and the point. Fröbel said the child should never be left in disconnected opposites, not even in his playthings; and for this reason he took great delight in this gift.

In passing, it may be said that the second gift not only furnishes an illustration of Fröbel's educational law, but is also especially valuable because of its typical character. In it Fröbel saw the whole world epitomized; and it is safe to say that whoever fully understands the significance which he attached to it has a true insight into his theory.

The thoughts which Fröbel has presented typically in the second gift he has embodied also in the game of "The Bridge," which is found in "The Mother Play and Nursery Songs." The words of the song explain the game :

"A brook is flowing along the vale;
The child would cross it,—his heart doth fail.
Oh, brighter the flowers the other side seem!
Yet finds he no way to get over the stream.
In vain his eye wanders from tree-trunk to ledge.
Now comes the good carpenter, builds the light bridge;
Then over and back he may go at his will,
With praise and with thanks to the carpenter's skill."

The motto for the mother which precedes this game is this:

*"To bind together what stands apart,
The child in play may discover the art
And exercise the manly skill
To span the space at his own will."*

In all their work with the gifts and occupations the children of the kindergarten are taught to apply *the law of unity*. It is not meant that it is taught them as a formula, but that they are led to understand it by seeing the beautiful results that come from applying it. For instance, a child lays a steel ring in the center of the table. Another, of smaller size perhaps, is placed in front, and another at the back; one is also placed at the right, and another at the left. Here the opposites of front and back, right and left, are mediated by the ring in the center, and a symmetrical whole is produced. The child, led thus to work by using opposites that are related, goes on to invent pat-

terns, in whatever material, in endless variety. A quarter of a pattern being shown them, very young children will sometimes ask to be allowed to complete it, so simple and intelligible has the principle become to them.

The intelligent kindergärtner finds in Fröbel's educational law a guide in all her presentation of objects to the children. For instance, if the child's attention has been called to his warm woolen garments, he is told that the sheep wore them first, and immediately his interest is aroused in all the intervening steps by which the wool has been made into a garment for his use; or he is shown a handful of wheat, or, better still, a field of waving grain, and is told that the bread he eats is made of the wheat. At once the operations of the farmer, the miller, and the baker, which bridge the gap between his necessity and the supply for that necessity, become intelligible and full of interest, because seen as necessary links in a chain of processes.

Following Fröbel's law, the kindergärtner will *handle* the children skillfully, because she will do it chiefly by indirectness. She will repress the too noisy activity of some wide-awake boy by making him responsible for the happiness of another child younger or weaker than himself, or she will subdue voices that are loud and harsh, not by calling attention to them, but by leading the children to listen to and imitate sweet sounds. She will arrange to alternate activity and rest, merry play and quiet work; in short, she will seek in everything to apply nature's great law of equilibrium, *the law of unity*.

6. THE RESULTS TO BE EXPECTED,—HARMONIOUS DEVELOPMENT LEADING TO SPONTANEOUS ACTIVITY.

Fröbel's deep thought of education was, that it should be the means of showing to each individual his own possibilities. To accomplish this there must be freedom of activity; for by no other means can individuality be developed. No external molding of the mind after a given pattern will do: that is the Chinese idea of education. Fröbel more than any other educator has insisted upon this necessity of spontaneous activity as a means of development, and he has devised a system that has made it possible. As a first step towards securing this freedom of activity, he would rouse in the child a *desire to know*; for as we may gauge the health of the body by the keenness of the appetite for food, so the healthy mind may be known by that "curiosity which is the appetite of the understanding." The constant effort of the kindergärtner is to induce children to use their eyes and ears—and to lead them to seek for the causes that lie back of the phenomena which come within their observation. In orderly development the next step will be the desire to give expression to the ideas that have been received. Use is the law of increase in intellectual as it is in physical strength, and Fröbel's system is shown to be in accordance with nature in the fact that *giving* as well as *receiving*, *doing* as well as *knowing*, are constantly insisted upon. If spontaneous activity is not the result of the child's training, there is somewhere a fatal defect. If the child of the kindergarten, treated ten-

derly and lovingly, justly and with respect, does not learn to show to his fellows tenderness and love, justice and respect,—if, having had an opportunity through the use of the *gifts* to gain clear ideas of external things, he never becomes inventive in the use of the occupation-materials, and his work is always only that which he is told to do,—the great object of his training has not been accomplished, for “the end and aim of the kindergarten is harmonious development leading to spontaneous activity.”

The test of the true kindergarten is always the joyous spontaneity of the children in their games and their inventiveness in the use of the gifts and the occupations.

Fröbel said, “Only that knowledge furthers the ripening of the mind which mounts up through its *own activity and effort from the perception and contemplation of external objects to the thoughts or the conceptions that dwell in things.*”

Over and over again Fröbel said, “Man is a creative being.” By this he meant that out of given materials he may make new combinations, for thus only can man be said to create. He said, “The Spirit of God hovered above the shapeless chaos and moved it; then began rocks and plants, animals and men, to assume definite shape, to exist and live. God created man in His own image, in the image of God created He him; therefore man should create and work like God; his spirit, the mind of man, should hover over and move the formless chaos of life in order that definite forms of life may emerge. Herein lie the deep meaning and importance

as well as the main object of work and industry: working is in a certain sense creating."

7. THESE RESULTS MADE POSSIBLE BECAUSE SOUGHT THROUGH THE ONLY ACTIVITY THAT IS NATURAL TO CHILDREN,—THE ACTIVITY OF PLAY.

All the activity of the kindergarten is easily roused, because everything is done in accordance with the child's natural activity,—that is, in the play-spirit. It is not merely in the games of the kindergarten that the children play. The games are *the plays*, but the children play in all they do. If they march, they are playing soldiers; if they build with the gifts, they are playing at building; if they work at weaving, or sewing, or paper-cutting, they are playing that they are working. There are no tasks in the kindergarten. Fröbel saw in the child's play the thought of God for him as to the means of development suited to this stage of his growth.

In that chapter of "The Education of Man" in which he treats of man in the period of his earliest childhood, he says, "Play is the highest stage of a child's development, of man's development at that period; for it is the spontaneous utterance of the inner life, flowing from an inner necessity and impulse. Play is the purest and most spiritual product of man's activity at this period, and is at once the type and image of human life in its entire range, of the secret life that flows through mankind and nature; hence it gives birth to joy, freedom, contentment, tranquillity, and peace with the world. In it are the springs of all good; the child that plays sturdily and with quiet energy, holding out to

the point of bodily fatigue, will surely become a sturdy, quiet, and steadfast man, promoting with self-sacrifice his own and others' welfare. Is not the playing child the most beautiful sight at this period of life?—the child fully absorbed in his play—falling asleep while thus absorbed?

“Play, as above indicated, is at this period no mere sport, it is deeply serious and significant. Cherish and nourish it, you who are mothers; protect and guard it, you fathers. The penetrating eye of one thoroughly acquainted with human nature plainly discerns in the spontaneously chosen play of the child his future inner history. The plays of this period are the germs of the entire future life, for in them the whole nature of the child is expanding, and showing his finest traits, his inmost soul. In this period lie the springs of the entire course of human life, and upon the proper conduct of life now will it depend whether the future is to be clear or clouded, gentle or boisterous, calm or agitated, industrious or idle, gloomy and morbid or bright and productive, obtuse or keenly receptive, creative or destructive; whether it is to bring concord and peace or discord and war; on that, too, depend likewise, in keeping with the peculiar natural constitution of the child, his relations to father and mother, brothers and sisters, to the community and the race, to nature and to God. For as yet the life of the child in its various aspects, individual and social, natural and religious, is a life of undivided unity and simplicity; he scarcely knows which is dearest to him, the flowers themselves, his own joy in them, the joy his mother feels when

he brings them to show her, or his dim sense of the kind Giver. Who would analyze the joys in which childhood is so rich?—If, now, the child is injured during these tender years, if the germs of his future life are enfeebled, then the child can grow to the strength of manhood only with the greatest toil and exertions, and only with the greatest difficulty can he save himself, during the intervening development and education, from becoming crippled or at least one-sided."

No wonder that with such an insight into the meaning of the child's play Fröbel should have found in it the means by which his theories could be made practicable. That he proposed to have everything carried out in the play-spirit proves that he had found the only right way of assisting the development of little children, since no other activity is natural to them. The children of the kindergarten often appear to be very busily at work, but it is all the more play to them that it appears to be work—they are playing that they are working.

It is not kindergärtners only that can thus avail themselves of nature's way of making work easy. Those teachers, in whatever grade of the schools, secure the best results who work in accordance with this idea. Children, whether in school or out of it, love to work if they are *playing that they are working*. The story of a man who by this means cleared a piece of ground of stones illustrates this. Wishing to remove the stones which were thickly strewn all over the ground, he told the boys of the neighborhood that on a given day he would help them build a stone fort. Delighted, as chil-

dren always are, to play under the direction of an older person, they came eagerly with little express-wagons and wheelbarrows, and carried all the stones to one corner of the field, where they were skillfully piled up to make a fort. The boys had a day of fun, and they accomplished for their friend a piece of work which it would have been cruelty to ask them to do in any other way.

The practical carrying out of Fröbel's theory makes the constant use of the hands necessary. Here he has shown himself to be in harmony with nature's plan, for children always love to have something to do. In a well-conducted kindergarten the children are never listless; for their attention is always held by connecting all instruction with the use of the hands. They are not burdened by being taught dry abstractions; they "learn by doing," and the hand, man's distinguishing implement of power, is made a chief means of education. By the use of it the inner thought and purpose find outward expression, and, by being thus expressed, reveal the child's possibilities to himself. It is with feelings of self-respect and a sense of dignity and importance that he looks upon the work of his own hands. He can do something well, and he feels that he has earned his right to a place in the world. All experience shows that if special skill in the use of the hands is desired, the muscles must be trained in early childhood; and it is partly because the kindergarten gives employment to the tiny hands of the very little children that its industries are so valuable.

In all reformatory institutions the importance of the training of the hand as a means of moral culture is

acknowledged. Statistics show that penal and reformatory institutions are largely filled by those who have no special aptitude for any useful work. Mr. Dugdale, in his book upon crime and pauperism, says that if the children of vice and crime, born with the lowest tendencies, could be from their earliest childhood trained in Fröbel's methods, these tendencies might be to a great extent overcome. This statement is easily accepted by those who see the delight which the children of the kindergarten take in their employments, and especially by those who see how the dullest and most refractory are made eager and docile when given work to do suited to their tastes and capacities.

The activity of play gives the freest scope to the imagination, and one very important part of the kindergärtner's work is to guide and educate this "kingly faculty of the soul." One of the greatest of living preachers says, "To fill the mind with beautiful images is the best mode of culture for the very young. Make sure of the imagination, and you secure the character." The kindergärtner recognizes this truth, and for this reason seeks as far as possible to surround the children with beautiful objects, and attempts constantly in the games and songs, the talks and stories, and by every other possible means, to waken such thoughts and feelings as shall elevate and refine. It is in these opportunities for seed-sowing that the true kindergärtner finds her greatest satisfaction.

There must be a great future for the kindergarten; for, although yet in its infancy, it has already largely modified the educational ideas that prevailed even a

generation ago, and the most thoughtful educators of the present time are looking to Fröbel's system for light to guide them in their efforts to make education truly practical.

The true value of the system will appear only when it is thoroughly understood by those who profess to present it, and when it is carried out in the spirit of humility and reverence in which Fröbel himself worked. His motto was, "Come, let us live with our children;" and the true kindergärtner knows no more sacred privilege than thus to be brought into closest relations with those of whom Jesus said, "Their angels do always behold the face of my Father which is in heaven."

The Kindergarten Gifts and Occupations.

BY ANGELINE BROOKS.

THE following brief statement of some of the methods of the kindergarten is for the benefit of those who are unacquainted with Fröbel's system, and who wish to get some idea of the means which he has provided for the education of children.

The presentation of the gifts and occupations here made may be compared to a verbal description of a musical instrument. Such a description of the instrument may be accurate as far as it goes, but it can give no idea of the musical possibilities which lie within, to reveal which the hand of the musician is necessary; and no description of the gifts and occupations of the kindergarten can give a just idea of the educational possibilities which they contain. To understand them in their full value they must be seen in practical use under the skillful handling of one who has studied them thoroughly in their adaptation to the child.

The object of this chapter will have been accomplished if an intelligent and sympathetic interest in the subject is roused in the mind of the reader.

It is necessary to state that the methods here described are only a part of those in use in the kindergarten. There are songs and movement-plays and games,

there are conversations and story-tellings, in short, there is a *life* of the children with the kindergärtner and with one another, an account of which is not attempted here, and which it would be impossible to present, for the sun and center of the kindergarten is the motherly woman at the head of it, who works in her own way, from principles and not from rules, adapting herself and her methods to the circumstances in which she is placed. Such a one does not follow Fröbel blindly, but if she is a deep student of his system she will be slow to think that she can improve upon him. To come more deeply into his reverent spirit, to attain more nearly his high ideal of what the kindergärtner should be, is her ambition.

* The use of the word *gifts* in this connection requires explanation. Fröbel regarded the whole of life as a school, and the whole world as the school-room for the education of the race. The external things of nature he regarded as a means of making the race acquainted with the invisible things of mind, as God's *gifts* for use in accomplishing the purpose of this temporal life. Regarding the child as the race in miniature, he selected a few objects which should epitomize the world of matter in its most salient attributes, and arranged them for use in an order which should assist the child's development at successive stages of growth, for at the foundation of his theory is the idea that the child develops as the race has done, and that to assist in this development he must have means corresponding to those which have helped the race up to its present position.

The occupations are means of expressing the ideas

received from the gifts, of giving out that which has been taken in.

In the use of the gifts no transformation of material occurs. When the play-time with the gift is over it is returned to its original form and put away for use another time. Not so with the occupations. They are, in the child's hands, the means of putting into permanent form the ideas which have now become his own, and in their use things are made to be kept or given away.

In the catalogues of manufacturers of kindergarten materials this distinction is not carefully observed, many things being called gifts which strictly are occupations.

The gifts of the kindergarten, strictly speaking, are ten in number. The first is the *ball*, the last some minute object, a seed for instance, to represent the *point*. From first to last there is a logical sequence in their arrangement, each succeeding one being closely related to what has gone before. The order of the gifts is a following out of Fröbel's idea that the mind should always proceed from the whole to the parts, from the known to the unknown, from the concrete to the abstract.

The first gift consists of six worsted balls, one of each of the six colors, red, orange, yellow, green, blue, and purple.



Fig. 1.

The second gift (fig. 1) consists of a wooden ball, cube, and cylinder.

The third gift (fig. 2) is a two-inch cube, divided equally in each of its dimensions so as to make eight one-inch cubes.

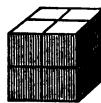


Fig. 2.

The fourth gift (fig. 3) is also a two-inch cube, but divided by one vertical and three horizontal cuttings into eight blocks, each of which is two inches long, one inch wide, and one-half inch thick.

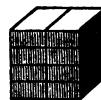


Fig. 3.

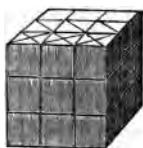


Fig. 4.

The fifth gift (fig. 4) is a three-inch cube divided into twenty-seven inch cubes. Of these, three are divided by one diagonal cutting into half-cubes and three by two diagonal cuttings into quarter-cubes.

The sixth gift (fig. 5) is also a three-inch cube, but in its subdivisions it contains twenty-seven blocks of the same size and proportions as those of the fourth gift. Of these blocks, three are divided lengthwise into halves and six breadthwise into halves.

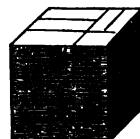


Fig. 5.



Fig. 6.

The seventh gift (fig. 6), consists of very thin pieces of polished wood in five different forms, the square, half-square, equilateral triangle, obtuse-angled triangle, and right-angled scalene triangle.

The eighth gift consists of small sticks of different lengths.

The ninth gift is composed of wire rings and half-rings of different sizes.

In the tenth gift the point is represented by any object most convenient. Very minute seeds are good for the purpose.

These gifts may be classified in three sets, the first set consisting of the first and second gifts; the second set, of the third, fourth, fifth, and sixth gifts, usually

called the building gifts; and the third set, of the seventh, eighth, ninth, and tenth gifts.

Broadly speaking, these three sets are adapted to the three stages of the child's development before the proper school age. The first set Fröbel intended for the nursery, for the wholly symbolic age of the child, when everything is alive to him and he imagines that everything can see, and hear, and talk. At this age the child sees in his ball an apple or a bell, a bird or a kitten; his cube is a box, a house, or a load of hay, and his cylinder is a wheel, a tree, or a rolling-pin for the baker, according to his imagination.

The second set is for the use of the child when he begins to investigate and to make things. He is no longer satisfied to see things as wholes, he wants to take them apart; he is no longer satisfied to call his cube a house, he wants to build a house. For this desire to analyze and to construct, the building gifts furnish almost unlimited means of gratification.

The third gift is adapted to the use of the youngest children of the kindergarten. They readily see the relation of the parts to the whole, and like to call it a "cube of cubes"; the distinction of size between the whole and the parts is all that they have to consider.

In all work with this gift, as with all the gifts that follow it, the children are taught to work in an orderly way,—always taking the gift as a whole from the box, and returning it in the same way, and in their building always deriving the new form from that which has gone before. Fröbel said, "Orderly doing leads to orderly thinking."

Figures 7-11 show the various subdivisions of the third gift, and figures 12-17 present a few of the many forms into which the eight small parts of the fourth gift may be built.

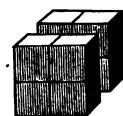


Fig. 7.



Fig. 8.



Fig. 9.

Fig. 10.

Fig. 11.



Fig. 12.

Fig. 13.



Fig. 14.

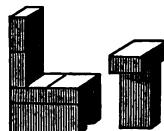
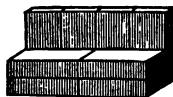


Fig. 15.

Fig. 16.

Fig. 17.

The fourth gift especially emphasizes difference of dimension, and length, breadth, and thickness are terms which it now becomes necessary to use.

The fifth gift is a great advance, containing much more material and bringing in the triangular prism, an entirely new form. With the use of this gift the possibilities of building are greatly increased, as roofs, chimneys, and projections of all kinds can be made with it (figs. 18-20). Far greater skill of fingers is required in handling this than in handling the preceding ones, and a greater development of mind is necessary to conceive a plan of building that shall take in all the parts of the gift.



Fig. 18.

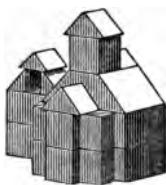


Fig. 19.

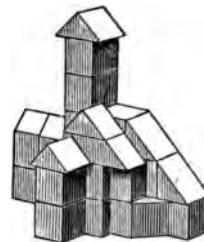


Fig. 20.

Three structures are here shown, each embodying all the pieces of the gift and suggesting the great number of architectural forms which may be made with these simple pieces.

The sixth gift fitly concludes this series. The columns make it possible to build high and airy structures, and monuments and Greek temples are easily produced by the use of it.

Fröbel said that the order of his building-gifts was such that in their use the children could be taken through the world's great building epochs, from Egypt to Greece.

Figures 21-23 show some of the simple forms that may be made with the blocks of the sixth gift.



Fig. 21.

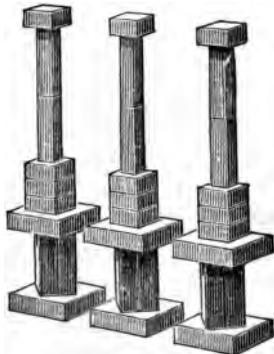


Fig. 22.

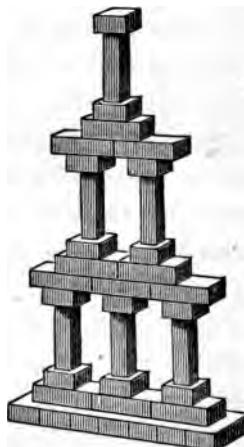


Fig. 23.

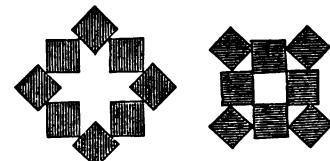


Fig. 24.



Fig. 25.

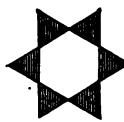


Fig. 26.

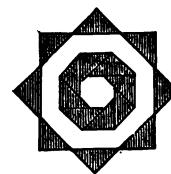


Fig. 27.



Fig. 28.



Fig. 29.

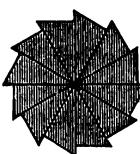


Fig. 30.

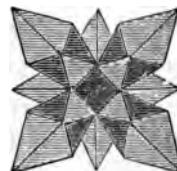


Fig. 31.

The next set of gifts is adapted to a still greater development of the child. From making models of things

with the building gifts, he represents, with these, surfaces and outlines of things—surfaces with the seventh, and outlines with the eighth and ninth.

Figures 24–31 show some of the forms that can be made with the tablets of the seventh gift, beginning with the squares and ending with a simple figure embodying all the five forms.

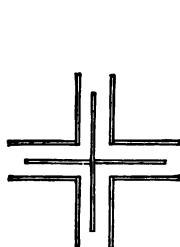


Fig. 32.

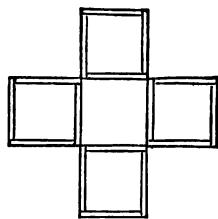


Fig. 33.

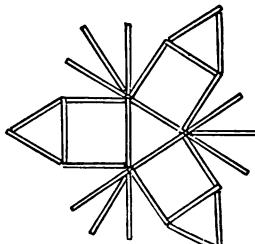


Fig. 34.

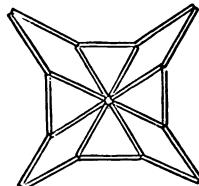


Fig. 35.

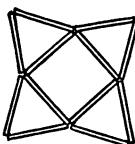


Fig. 36.

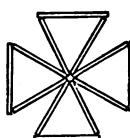


Fig. 37.

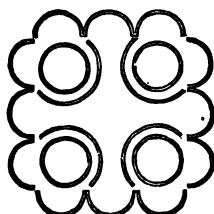


Fig. 38.

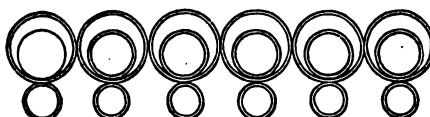


Fig. 39.



Fig. 40.

Figures 32–43 represent some right-lined figures laid ■

in outline with the sticks of the eighth gift, and some curved-line figures made with the circular wires of the ninth gift.



Fig. 41.

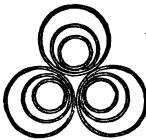


Fig. 42.

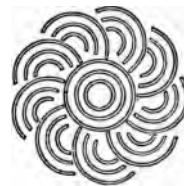


Fig. 43.

In the tenth gift, the point is a means of representing form by indicating outlines.

The gifts are all valuable as means of making the child practically acquainted with elementary geometry. In the first three he gets, by constant use of them, a knowledge of the sphere, cube, and cylinder. In the fourth he becomes acquainted with the parallelopiped. In the fifth the triangular prism is emphasized, and in the sixth the square prism. In the seventh he is furnished almost unlimited means for study and practical work in plane geometry and direction of lines; and the enclosing of spaces by lines is practically taught in the eighth and ninth.

By this early practical acquaintance with geometry the child gains distinct perceptions of form, size, and direction, and acquires a skill of hand and training of the eye which will be invaluable in future life. The artistic perceptions are fostered by the use of all the gifts, but especially so by that of the tablets, sticks, and rings. The children, by applying the *law of unity*, as they learn to do in everything, constantly invent

beautiful designs with these convenient materials. Thus it will be seen that the best possible foundation for industrial and art education is laid by the use of the gifts. In fact, the kindergarten is an elementary school of science,* industry, and art, a practical school, in which the children "learn by doing." This statement needs no proof to those who have seen the children expressing their ideas in permanent forms by means of the occupation materials.

The *occupations* of the kindergarten are many and varied, but the materials are few and simple, in accordance with Fröbel's idea that the child should be led to produce beautiful and diverse objects with the simplest elements, and should feel that the beauty of the finished production depends upon the skill with which he puts things together.

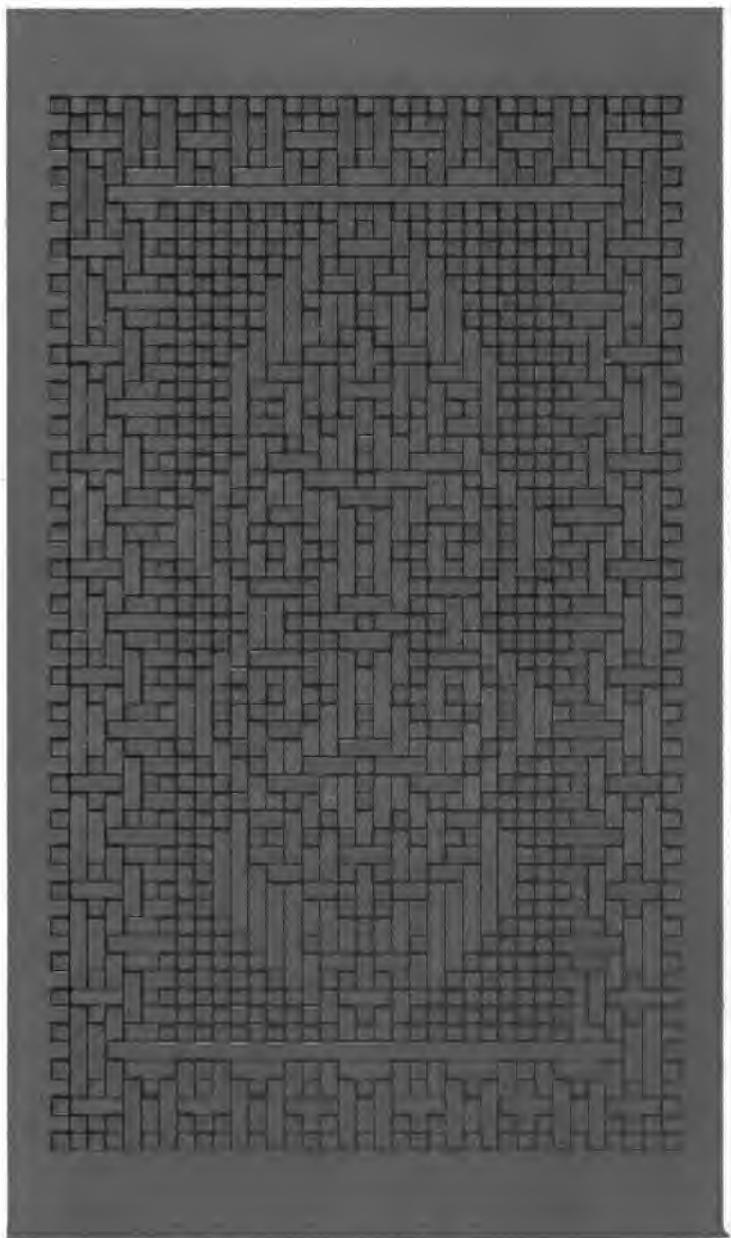
The articles in most common use are easily named. Clay for modeling; wooden balls for stringing; bright

* The only part of the kindergarten system, as it left the hand of Fröbel, that lacked a scientific basis, was music. This deficiency has been supplied by Mr. Daniel Batchellor of Philadelphia, in an ingenious adaptation of the Tonic Sol-fa system of music.

While making, a few years ago, an accidental visit to one of Mrs. Shaw's charity kindergartens in Boston, he was impressed with the fact that while everything else was scientifically taught, the only singing in the kindergarten was rote singing. Mr. Batchellor was at that time studying the analogies between the mental effects of tones and the mental effects of colors, and it occurred to him that these obvious analogies might be utilized by preparing a musical notation for the children in which tones should be represented by colors. His devices for this purpose are few and simple, but by the use of them music is introduced into the kindergarten on a scientific basis, and the children receive a training which is the best possible preparation for their future musical education.

worsted for embroidery; colored papers cut into circles, squares, and triangles for folding and pasting, or into strips for weaving and interlacing; paper netted or dotted for drawing; stiff paper perforated for embroidery; soaked peas and sticks or wires;—these include the greater part of the materials. To aid in their use, needles and scissors, paste-brushes and pencils, are the usual implements. Simple as these materials are, their possibilities are not easily exhausted. The versatile kindergärtner who has a reason within herself for what she does, and so is not in bondage to rules, will find in them means of easy work for the three-year-old babies, and will feel when the child at seven years of age leaves her for the school, that he might profitably have spent years longer in their use.

In making clay modeling an occupation of the kindergarten, Fröbel availed himself of one of nature's universal means of education. He said that what children everywhere love to do must have in it some educational value, and, true to his principle of following nature's methods, he gave the youngest children the opportunity of gratifying their universal fondness for handling and playing in plastic substances. Before Fröbel's day it had not been seen to be wise to allow children such opportunities unless they were to be educated as artists, but he said that they were a necessary step in the life of every child, not to make him an artist, but to make him a more complete man. He saw in them a necessary means of developing the child's powers and of leading him to know himself. Starting with modeling the simplest forms, the ball and the cube,



PAPER WEAVING.

the child begins at once to express the ideas of form which he has been receiving, and by thus expressing them gains a clearness of conception which could not be received in any other way. He will be sure to know how many faces a cube has when he has made a cube.

The industrial value of this occupation is great in many ways. Through it the eye and the hand receive thorough training, and habits of neatness and careful handling are acquired, which of themselves are enough to justify its use. The clay, if properly prepared, need scarcely soil the hands, certainly not the clothing of the children. No good work can be done with muddy fingers. The making of solid forms in clay, whether regular mathematical forms or the representation of the beautiful forms of the vegetable and animal world, is a great step in developing the artistic perception, and leads directly to carving and drawing.

The fact that the use of clay is now becoming very general in the public schools as a means of education in form, and as a preparation for drawing, is one among many proofs that Fröbel's ideas are leavening the whole educational lump.

The sewing (embroidery) can be carried on indefinitely. At first the little hands have trouble to manage paper, needle, and worsted, but the child loves the work, and so, carefully and patiently, he overcomes mechanical difficulties, and by and by is able to express himself in beautiful designs which are a study in both form and color.

The weaving is one of the greatest favorites with the children. This most ancient and most general of all in-

dustries is, by means of the simple kindergarten materials, brought within the reach of the youngest children. At first the paper wrinkles and tears, and the needle goes the wrong way, but, these difficulties once overcome, the child is led on to free invention, and in his designing of original patterns the industry becomes an art.

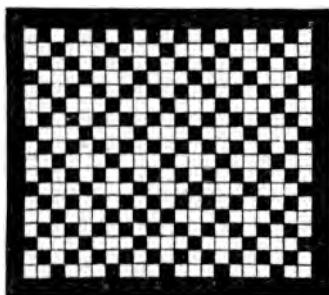


Fig. 44.

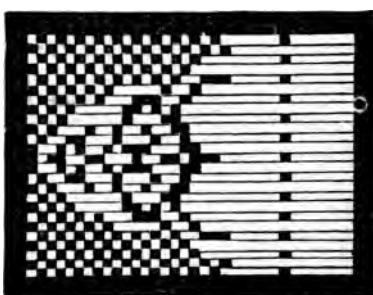


Fig. 45.

In the above illustrations Figure 44 shows a simple pattern completed, and Figure 45 a more complex design, partly finished, one black strip having been woven into the white mat, but not pushed up against the strips previously woven in. The work is done with a simple spring needle, which holds the end of the strip of paper.

The paper-folding and paper-cutting are a systematic carrying out of the attempts that children, the world over, make wherever there are paper and scissors. No one who has seen the triumphant delight with which the children display the cocked-hats and ships, the work of their own fingers, or who has heard the expressions of satisfaction with which they regard some

successful attempt at paper-cutting or pasting, can doubt the wisdom of Fröbel in placing them among the kindergarten occupations.*

A further description of these occupations will not be attempted. The underlying thought is the same in all—that is, to provide means through which the child shall express himself, and by such expression learn to know and respect himself.

To learn how to use these materials so as to make them of the greatest educational value to the child is one very important part of the necessary training for the kindergärtner's work. To adapt the occupation to the gift, and both to the child, requires careful study.

No true educator sees mere fancy work in these beautiful productions of the kindergarten. They are a means of development, physical, intellectual, social. Some one has said that the command "*know thyself*" is impossible of fulfillment except through obedience to the injunction "*know what thou canst work at.*"

*A few illustrations of work with papers in weaving, cutting, pasting, and folding are shown in the colored plates.

THE USE OF Kindergarten Material in Primary Schools.

BY MRS. ALICE H. PUTNAM.

"WHAT it is most honorable to know," says John Ruskin, "it is also most profitable to learn. Choose, therefore, from the many things which are to be known, those which it is most vital to know."

This choice for a pupil is a teacher's first, last, and intermediary work. What ought my children to know, in order that they may *do* the wisest and best things? What ought they to know, that they may be, so far as in them lies, the living expression of the truths which we are presenting to them? What knowledges are the best for training the will power? Having become convinced that certain truths are "vital," the teacher must at once so arrange the conditions for learning, that the child may acquire the knowledge and love of these truths by means of his own activity. In his kindergarten system Friedrich Fröbel has made a selection of subjects and objects which he claims will, if rightly applied, lay the foundation for "clear thinking, right feeling, and noble doing." Let us examine some of these fundamental truths and see if they are not just as helpful, and just as necessary for the child of six years, as for the little ones of two or three years of age.

Every one will acknowledge that form, color, num-

ber, position, direction, and size are among the list of attributes without which no object can be recognized. We must acknowledge also that there are powers in the child's mind which can act and be acted upon by these external qualities. From birth, the child sees varying forms and colors; early he becomes conscious of the one and the many objects; hears loud and soft sounds; touches rough and smooth fabrics. All these things have come to the mind unconsciously. At three, or four, or five years of age, there is material enough in the mind for it to work upon for a long time; but how can the teacher lend a hand that shall help the little child to gain control of what he knows? How can we help him get his bearings at the outset of the conscious path which he must follow, in order that he may gain more knowledge, more strength that shall lead to higher uses? Fröbel, who has studied this stage of development more than any other educator, says: "Let the child grow into a knowledge of truth by means of types and symbols. These have led the race under precisely the same conditions, and these will guide the child to his goal." There comes a time to every child, however, when the atoms of truth are visibly and practically put together to form larger wholes on which the mind works, and this sort of crystallization goes on very rapidly from the third year. The principles which help this aggregation are the same in either case.

The work of the school, the kindergarten, the home, is all one in the beginning. It is to make clear to the child the perception of single things, and then aid

him to see these truths in their relation, under different conditions of time, place, and people. The fact that children, babies even, in the home are gaining impressions, false or true, from their daily environment, impressions which often last a life-time, has been too much overlooked. On the other hand the school too often has tried to do this work only so far as words are concerned, but it is granted now by many teachers that the symbols which are most used in the school-room have not always been the best ones; indeed the question is an open one whether or not the words have symbolized anything.

The young child needs tangible, concrete representatives of form, color, size, and number. He needs an opportunity to practice in childish action the principles of justice and love. The child cannot be made to fit a mold, without destroying his freedom and violating his nature; but the mold can be made to fit the child (if we change it often enough). Therefore says Fröbel, "All education in the beginning should be flexible, supple; limiting itself to protect and guard, rather than take any fixed form" (method). The more one sees of children in the primary schools, the more convinced one becomes that this contact with things is as necessary for them as for the kindergarten child. The children are, almost without exception, unable to use to any purpose the elementary ideas which they have already gained. The teacher must train the eyes to see, and the hand to act consciously, just as much as *the kindergärtner*, but the latter has the decided *advantage in this condition of things*, viz.: that from

the outset, the child's affectional nature is on the side of his tools, that is, he has put into his hands, to work with, things in which his interest has already been aroused.

The more balls of various sizes, colors, and materials the child has played with, the more this typical round form has been connected with the round forms in the school-room, in the garden, in the air, and sky, so much the clearer will be the concept of a sphere, and the word itself will be worth vastly more to this child than to one who has had but a verbal description, or at most a painting of a sphere. This plan of Fröbel's, to give the child certain objects or qualities of objects under varying conditions, yet never losing sight of them as a perfect whole which stands out clearly and simply from all else, is one of the strongest and most helpful of the many suggestions which he has given to teachers. Each of the gifts is in its place the small end of a large problem, which the child is continually working out from the center in which he stands, into ever widening circles, from which he may again take into his mind and heart all the truths worth knowing which go to build up a life worth living.

The forms of the second gift will illustrate what is here meant. The right use of the sphere, cube, and cylinder bring the child face to face not only with truths which are related to the animal, mineral, and vegetable kingdoms, to forces or forms of life in organic or inorganic matter, but they go further. The movement of these bodies, and the appearance which *is the result of this movement*, appeal not only to the

little child's power of observation, but they go still deeper and awaken in the heart that which responds to rhythm. This sense has always delighted young and old. The baby in the cradle responds to this rhythmical movement, and all along the line of growth we find man subject to it. In poetry, in music, in color waves, everywhere, we find it the key which is to unlock for us deep mines of delight. What place has it in most of our school-rooms? How few teachers are themselves conscious of the ally they would have in this hidden power. The sharp, quick, harsh tones of the voice in speaking to a roomful of children, the loud singing and ungraceful movements of the children themselves, all show of how little importance we have considered the matter. Again, in these three objects, we find the basis of all architectural forms. They are the corner-stones furnished by Dame Nature herself. Children eagerly grasp at this idea, for the impulse to construct, to create, is manifested very early.

As in the kindergarten we find so many lessons in the symbolism of the gifts, so in the school-room we learn to value all of them as types which bring to the consciousness of the child all the salient characteristics of objects by which they are surrounded. The cube, square, various triangles, etc., furnish a basis for the classification of all forms. These colors which the child is now using, form a nucleus around which all other ideas of color may group themselves. The case is the same with the first ideas which the child receives of direction and position. These elementary ideas are so clearly presented, and then so logically connected

through the whole series of material, under ever varying conditions, that there cannot fail to be in the mind broad, clear concepts. Every impression, idea, and concept is, as it were, riveted by an action; this *action* is the means by which the truth is stored away in the memory until it is called into the consciousness again by the same or kindred means, *viz.*, a deed. Every form the child has made rightly with his paper, clay, sticks, etc., has brought into his consciousness fundamental ideas of direction, position, size, number, and relation, which are just as much an intrinsic part of his future geography lessons, or those in arithmetic and writing, as these attributes are part and parcel of the duck or boat of the kindergarten.

It is because Fröbel thought out the relations of all these gifts and occupations, presenting in each certain elementary attributes, binding them into a complete whole, which fully satisfies the perceptive, sensuous age of childhood, that we value them as preparatory media for the truths to be presented when life's second page is turned. Having laid up a careful store of sense products, the child from the seventh to the fourteenth year is able to increase his knowledge, to satisfy the intense desire to investigate things of earth, air, and sea, as he could never do without the foundation which was laid in concrete sensuous perceptions.

But knowing facts is not enough, expressing or reproducing ideas gained is not enough. The character grows only by the uses made of our knowledge; and the best use is "not for ourselves." From the first gift to the last, Fröbel has desired that this unselfish

use of all of his knowledge and skill shall become part and parcel of the child's training. He does not merely declare that the child should be taught to love others, but provides ways by which the germ of a thoughtful consideration of others' rights shall be fostered. Surely the school-room cannot ignore such a factor in education. The problems of the day, which are pretty much the same in all quarters of the globe, can only be solved by a code of ethics in the school-room. In some way or another, time must be found in which to give school children more chance to experience the delight of doing for others, and this must be done not by changing the work of the school-room, so much as its spirit. There is an avarice of knowledge as baneful as that of silver and gold; there is a robbery of time as mischievous as that of taking my neighbor's watch; there is a feeling of laziness which can easily grow into a thought that "the world owes me a living, and I will have that debt paid at whatever cost"; and, again (and this perhaps is the commonest of all evils), there is the feeling of pride and power in the thought that my right hand and my active brain have brought to me these riches, whether of truth or of power, and they are mine, to use absolutely for my own aggrandizement.

The whole matter of moral training seems so tremendous, it seems so hard a thing to get at the individual conscience of each child in our crowded rooms, that every earnest teacher must at one time or another ask, "Who is sufficient for these things?" What if the answer should be as of old, that they are "hid from the wise and prudent, and revealed unto babes"? Is it

too much to believe that certain lines of work in which we know children are always interested might be so managed as to embody some of these great lessons? Is it claiming too much for the element of color, for instance, to say that a right use of colors in the school-room (not merely a power to recognize the colors of the prism), this use to be such as will bring the child into the very closest contact with harmonized tints and shades, will have a refining tendency? Will it not help to soften that which is harsh, to modify coarse tastes, and will it not begin to fill the heart as it does the eye, when the teacher is busy and has no time to preach? Will not the actual making of symmetrical forms at least make the child more conscious of that which is out of proportion, and, if he knows the law by which he can gain the result which has pleased him, will he not be apt to follow it occasionally, at least? If he once feels the delight which comes from giving that which he has himself created to another, will he not be the more ready to bring about the same happiness again and again?

We must be careful not to lose sight of Fröbel's idea of growth. There is a germinating point in every act of the child's life. It is the unconscious stage that this lover of children watches so sacredly, and this time has its parallelism in every act of our life, as well as in that of a young child, when we are about to discriminate consciously any truth that has lain dormant in our minds; this is the critical stage in the growth of every idea. A young child needs all the support he can find to help him, and it has been worse

than foolish to deny him any aid that he can receive from personal delight in the undertaking. The only care must be that the desire end in a conscious willing of the deed. No one knows better than Fröbel the bad results of pleasure for its own sake. Every delight which the child experiences should lead him to higher and higher knowledge of truth. Every form made with blocks, sticks, and papers should lead him into a broader knowledge of the relationship of these elements of science.

There is a mistaken notion abroad that the kindergarten weakens the child by creating a craving for these enjoyments which it is not in the power of the school to gratify; that the child is made dependent on others for work that he should accomplish for himself. This is owing to two faults. First, there have been unwise and inexperienced teachers in the kindergarten, who have made grievous mistakes, especially in the matter of selfish delight of pleasure for its own sake, as mentioned above. The other fault has been on the side of the school. Its teachers have expected too much of a child who has come from an atmosphere where constant activity of the whole being, body, mind, and spirit, prevails; where the short periods of work, of mind and hand (which the kindergarten never separates), are followed frequently by times of rhythmical movement plays, the whole system arranged to suit the natural fickleness of this stage of growth.

True happiness never hurt any living soul. The world has suffered far more from the fact that there has not been enough of it, than because there was

an oversupply. Every teacher knows what a wonderful lubricator the "oil of joy" is, in his daily work. Charles Kingsley says of happiness: "There is no food, nor medicine either, like it." If people are not happy they are tempted to do many wrong deeds and think many wrong thoughts. Children who are unhappy, children who are bullied and frightened and kept still and silent never thrive; their bodies do not thrive for they grow up weak; their minds do not thrive for they grow up dull; their souls do not thrive for they learn mean, sly, slavish ways. Well said the wise man, 'The human plant, like the vegetable, can only flower in the sunshine.'" If it were true of no other class of human beings, this could forever be said of little children.

"If you get simple beauty and naught else, you get about the best thing God invents."

Why? Because a child whose mind is filled with pure and lovely images does not crave that which is impure, coarse, and vulgar; because the little fingers that have been taught to obey the will in the doing of useful, pleasant work, are not beckoning to the father of mischief and idleness; because if these hands and minds are busy drawing from the present surroundings all the contentment that lies hidden in them, there is little or no showing for the evils that come in the train of disappointed ambition. "There need be no disappointed ambition if a man were to set before himself a true aim in life, and to work definitely for it; no envy or jealousy, if he considered that it mattered not whether he did a great thing, or some one else did it,

nature's only concern being that it should be done; no grief from loss of fortune, if he estimated at its true value that which fortune can bring him, and that which fortune can never bring him; no wounded self-love, if he learned well the eternal lesson of life, self-renunciation." We owe it to ourselves and to the children who are committed to our care that our teaching shall be intelligent, reasonable, and in accordance with the known laws of physiology and psychology. We dare not refuse to examine all standard authorities in educational questions. We must, if we are faithful, not only ask what has been done, what is being done, but keep our minds open to truths which may not yet be within our horizon. The eternal truths in this matter are not new, but the attitude of the thinking world toward them is changing as constantly as a child's knowledge of any of the laws of physics.

And now what are we going to do about it? Have more free kindergartens? Make the kindergarten a part of our public school system? Not yet, I hope, not until boards of education represent more fully than they do in many places that part of the community which has thoroughly investigated these questions. Far less is known of the laws of mental growth than of those which pertain to the well-being of the body; and, until the time comes in which people are willing to look fairly at the question, the earlier the child's mind is subjected to an irrational control, the worse for it in the end.

Much, however, can be done by teachers who will take the trouble to inquire into the practical applica-

tion of some of these materials in the schools, as they now are organized. Summer institutes offer much practical, systematic aid. Every year more and more is written on the subject, but perhaps better than books is the personal, friendly contact with a kindergärtner who knows something of the difficulties of bringing these materials into a school-room of fifty or sixty children with no assistance whatever, save that which the elder children can offer the little ones. I believe that some of the folding lessons, for example, might be given to a group of children in the grammar grades, and then these scholars could be sent into the primary rooms to aid the little folks in their work, with positive advantage to themselves. "But it will take time," so the teachers say, "and we already have more than we can do." If the powers that be do not believe that there are things worth knowing better taught through the use of Fröbel's material than by means of books alone, of course the question is not open for discussion. But if there are those among them—and who can doubt that there are hundreds?—who believe that this matter of ethics can at least be approached through the rousing of the æsthetic sense of the child; that a thoroughly noble, well balanced man or woman can begin to build up this character by forming the habit of voluntary right action in little things, by learning from the very outset something of those symbols of the unity, variety, and mediation of truth which Fröbel has selected, then the matter is not a difficult one. Using the opportunities we have to aid our children, more will be given.

The special work of the kindergarten is to foreshadow and prepare the way for the direct application of truth. In this Fröbel follows closely the plan of nature, which everywhere anticipates and prepares for higher development. It is in the unconscious stage of growth that Fröbel asks for flexibility and suppleness in the surroundings. As the child grows out of this unconsciousness into fuller consciousness, the application of educational truths must be changed—not the truth but its application. The child who has come into the school from home, at the age of six or seven, has had through his own experiences many conflicting ideas made clear to him, and it would be perfect folly to expect him to grow on the same sort of mental food that a baby of two or three years old needs. Yet for the most part he still has to gain a consciousness of many of the elementary ideas of color, form, etc., with which the young child is busying himself.

We parents have a right to demand for our children the best tools with which to build their everlasting house. When wise men claim that improvements in these tools have been actually made, is it asking too much that they be thoroughly tested? Is it not the office of the educator to recognize the whole being of the child, and not to divorce what God has joined together, expecting the home to do one part of the work, the school another, and the church another? The teacher, to whom the parent is everlastingly in debt, is the embodiment of all three offices.

One word of warning I would give to those who are inclined to look at the mental side of these gifts, and

value them for that alone. They are useful for "language lessons," they are invaluable for "number" and "form lessons," but unless they are used in the spirit and for the purpose which Fröbel gave them, *viz.*, a means to fuller self-development through the child's own activity, they are no better, no worse, than the countless numbers of objects that we see in passing from one school-room to another. Used as Fröbel has indicated, in an orderly sequence, they will be to the children a means of growth, better than anything yet suggested. The teacher need not throw aside her books, but use with them these things, which are to little children as living pictures. They will not prevent faults and failures; they will not make good angels of bad children; but they do help to reduce mischief to the minimum, and help to open the child's soul to love, truth, and beauty, which is an essential element of both, provided we know how to apprehend it.

"What use shall we make, then," asks Frobel, "of the fact of an inseparable connection of all things, and all times, for the education of our children? This use; that we look upon them and treat them as individual, spiritual beings, and then that we teach them to perceive things in this connection."

"Come, let us live with the children."

THE CONNECTION OF THE KINDERGARTEN WITH THE SCHOOL.

BY MRS. MARY H. PEABODY.

AMONG the topics of the day nothing is commanding more general interest than the subject of education. Its discussion grows universal, and in all circles the various methods in use, the schools as they are and as they should be, are constantly before the minds of the people for praise or blame, for criticism and desired improvement. Many intelligent and well informed persons insist that the kindergarten system should not be confined to the use and practice of very young children, but, by a natural expansion of its principles and elements, should be carried on in the primary school and be made the means of a natural educational treatment for at least another five or six years.

This assertion is founded on the claim that the existence and practice of the kindergarten have already produced a beneficial effect upon schemes of education now in use, and that it is, in truth, the source of direct advantage for which it does not receive full credit. So, although the school and kindergarten now stand far apart from each other, and are unlike in their methods, the question arises whether, in the educational changes *that are to come*, it will not be possible for them, upon

the basis of a common principle, to unite their practice and so produce superior results. At present the kindergarten does not prepare for the school and the school does not, with conscious intention, continue what the kindergarten has begun. Because of this recognized disagreement between the two the kindergarten, as a comparatively new comer, born across the sea, stands as the center of inquiry and is called upon to explain itself—to burst as a bubble when its colors are gayest, if it has no substance within—if, as has been said, it is “a place in which systematically to do nothing”; or, if it is a plan of work solid in its foundations and healthy in its growth, to make plain the truths upon which as a natural method it rests, and to declare the principles by which it abides.

The replies of the kindergarten may not be acceptable to all, as giving valuable ideas in regard to the future organization of our schools, but they will at least be satisfactory, as showing “what those kindergarten people mean” and setting forth the reasons for the work they do, so that the kindergarten can be understood, rightly criticised, and fairly judged for what it is really worth.

The questions most frequently asked are very simple yet searching in their directness. The questioners put aside the words and phrases that belong to the kindergarten; they are rather impatient of its philosophy and seek for the root and reality of the whole thing. They ask, “What is the kindergarten? What are its elements, methods, and principles? Are they practical and can they be clearly explained? What are its valuable exercises?”

training of young muscles. So we hear of the New Education, and of new methods which are successively proposed, discussed, amended, and finally through actual trial are rejected as worthless, or retained as valuable. But none of these schemes of work have as yet been made complete, so as to present an entire plan of education from the kindergarten to the university, which, standing upon natural law, meets all the demands that are made by teachers, parents, and children. Studies of subjects are made by different people from different stand-points and the result is more or less experimental when applied to class work; and also, when apparently successful plans of work which have been adopted are gathered together and compared, they do not illustrate a common recognition of great leading principles; they do not show the expression, through music, drawing, text-books, and machinery, of a progressive movement from one center outward. So with freedom the school acknowledges that it still is seeking for a natural and complete method of work, and the whole period is one of necessary questioning, transition, and change.

In addition to all that relates to literary instruction, the demand is now made that the school should furnish some sort of manual training for its pupils. The subject grows in popular favor. People see and say that whenever a man wishes to express his thoughts he has to do something. He must at least write words, and it is evident that the great ideas of humanity have to go far beyond speech and in some material form present themselves for the inspection, the rejection, or the acceptance of mankind. If a man thinks of a house, an

engine, an elevator, a telegraph, or an improved coffee-pot it is nothing to the world and therefore of very little value to himself until the thing is made and other people use it. The friends of manual training sometimes charge the school with having drifted away from real life and become a thing apart; a literary system which produces certain literary results, good in themselves for those who find opportunity to use the powers which have been so cultivated, but not truly advantageous to the majority of those who, as pupils, go through the courses prescribed.

Men who see that this nation is naturally inclined to pursue the path of peaceful industry, say that the time of the children, the labor of the teachers, and the money of the people ought to be combined to educate the rising generation to go on with the work of producing the material wealth of the land and to take a more skillful part in the manufactures that employ and enrich the people. It is said that since the world lives by industry, by use of wood, stone, metals, and chemicals, the school should teach industry by means of all these things.

But the school, while admitting the force of these arguments, cannot extend itself without restriction. Its power is not unlimited. In justice to the teachers and pupils it cannot be; in justice to the people who support it, it cannot be. Its limits must be well defined and its most prosperous condition can be looked for only when its whole scope and plan shall be fully understood and agreed to by all.

So far as these limits are now declared they show that —

the school is intended to give the general elements of such education as shall produce intelligent, self-supporting citizens, and that it cannot, consistently with this design, undertake to teach the trades. The people of America are the law-makers. The reins of government are held by them. The whole course of the country depends on the will of the people. The free school is for the children of these people, who in their turn are to take their parents' places and fill the simple yet responsible position of American citizens. The whole foundation and support of the school is from this idea of the support of the nation, consequently it must teach the elements of education in a wide sense; it cannot educate in or for specialties. Since we are not only an industrial nation but are a governmental people as well, it becomes our province and desire to save ourselves from ignorance, to reduce "the masses" to individuals who shall be sovereign in their mastery over their own minds and self-governing as well as self-supporting. Still, while this is true and must be retained as the leading idea of the school, it is also acknowledged in harmony with the spirit of the times that nature should have place in the school-room and no longer be rendered into English and repeated second-hand as theory, and also the great natural truth is accepted that the hand is the tool by which the head does its work and that the head should not be required to work without it.

Under the control of these ideas and others, changes in method and treatment have come about, especially in the lower grades of the schools. Here it is most possible to try the experiments that lead to any practice

worthy the name of method, and here, at this door of primary entrance, we find the teachers looking to the kindergarten and asking how it can aid them in the solution of their problem.

It is frequently asserted that the changes already wrought in the school are largely due to the influence of the kindergarten. No one can understand that any attempt is thus made to decry the noble effort, the beneficent labor and the valuable accomplishment of the public school, and no true friend of the kindergarten can ever seem to assume any essential superiority for it except in the choice of means and ways of working. The end in view is, for each, the same, and in the higher light of a progressive age, as the school turns to its mother nature and questions how it can draw from her bounteous hands the means of life and right growth for the children of earth, the kindergarten appears treading the same pathway and asking the same questions. The replies, coming from the same source, from the great book of physical revelation, written with types of stone and plant and animal life, which proceeds from beginning to end in the one great expression of growth and power which we call the unity of nature, must be to each inquirer the same. There can be no contradictions. The facts of physical life, its forms and constitution, must be and are unalterable, steadfast through all the centuries, the common property of all who can see and will use them. So whoever sees any natural truth and adapts it to practical use, whether it be in the education of children, or the lighting of city streets, becomes a leader of others, the influence of his action

being felt, approved, and used, directly and indirectly, consciously or without recognition, everywhere about. And so the kindergarten, having displayed the cheerful gleam of its little ray of natural truth, has been the means of disclosing facts and principles which have been as revelations to many minds, and have led teachers to approach nature in that spirit of inquiry which when wholly freed from prejudice always results in some degree of progress. The position of the kindergarten is that of an inquirer, of a listener to nature's teachings, a gatherer of its materials, and a worker with those gathered treasures according to the laws of nature; and Fröbel, as the organizer of the kindergarten, stands as a messenger, declaring to those who care to listen, all that he was able to perceive when he set the child, nature, and education before him and studied them all together.

He announces that the laws of education are not to be made by man, that they are natural laws already existing, made for man, to be sought and found by him, but not to be invented or originated by any human mind. He declares that the plan and material for man's education are laid down in nature, in natural and tangible forms, and that these have an especial order of their own, which should be followed without deviation therefrom because it is the order of the Supreme Creator and therefore superior to anything man can devise. Also he teaches that, by its natural action, the mind of the child shows that it requires just that succession of reply *which is thus* set forth in the physical world, to satisfy *fully its natural* inquiries and desires.

Upon the basis of these principles, Fröbel, following natural law, began to answer the questions of the child, by putting into its hands a set of typical natural forms from which its future education was largely to be derived. Thus he founded an elementary school of mathematics and natural science, wherein each idea which is to be presented to the child is to be illustrated by industries which can be executed wholly by childish fingers, yet are, each one, preparatory to more difficult work of the same character, and are thus the very beginnings of the great industries of the world.

This being the fact, it is often supposed that the kindergarten prepares for industries only: for the teaching and study of trades. To a degree it does; that is, if children are to be taught manufacture and the work of artisans the kindergarten offers the best beginning, because it gives the elements of these labors from their starting points in nature. So the paper mat of the kindergarten, so often spoken of with scorn, even by intelligent mothers and teachers, makes the best of preparation for future designing of carpets or laces. Still such sequences of labor are but incidental, for, in the plan of Fröbel, industry is a *means* and not an end. The kindergarten is not a place for making things but for learning, through experience, how to apply natural laws and make the inward individual thought appear in an outward form. So the paper mat, when properly used in a true kindergarten, stands as the expression of an idea, which, through industry, has taken form outside of the child's mind. It is a study in mathematics, combined with the training of eye and hand, and it is only by

our failing to see all this truth that the woven papers are regarded as *things*, and therefore despised as worthless, when in reality they are one means of awakening the inventive faculty which, as experience shows, may afterward appear in the composition of music, of literature, of the mechanics that move the world. To return —the aim of the kindergarten is essentially that of the school. Neither propose to cultivate specialties. Both desire to fit the child for practical life, to teach law and order and self-government and general capability. The difference between the two lies in the means taken by each to attain this end; thus they are unlike in their elements, methods, and principles of action. In the school the elements of education are chiefly literary; in the kindergarten they are the elements of natural science. The order of *study*, with the reasons that underlie the chosen practice of the teachers, makes the *method* of the school. The order of *work*, with the reasons that control the succession of ideas to be awakened in the child's mind, shows the *method* of the kindergarten.

It is a principle of the kindergarten that labor is not the curse but the blessing of mankind; that all development and all highest enjoyment of life comes to each person through what he can do to express his own mind. So the children are set "to learn by doing," and the idea of industry in their education has its relation not directly to the work which they may do in mature years, but to the desire and intention of enabling them each to think for themselves.

Fröbel said: "God creates and works uninterrupt-

edly and continually. Each thought of God is a work, an act, a result; and each thought of God works with continuous creating power, producing and representing." The thoughts of God, as represented and made known to us, are His works. As a whole we call them nature. Fröbel considered that the spirit of the Creator had expressed itself in the earth, with its stones, plants, and animals, for the purpose of furnishing man with means to create in his turn, and by use of the same materials to express his human thoughts; and history teaches that from the time when no cities stood upon the earth up to these days of metropolitan growth, the signs of what men have thought have been wrought out in wood and stone and metal, rising from log huts to palaces, from rude wagons to railways, from writing to printing, from tallow dips to electric lights, from scratchings on the tusk of the mammoth and carvings of bone to the modeling of Athenian statues and the paintings that delight the world. Upon this ground industry came into the kindergarten. Industry is use of material. All laws by which materials are used and made into anything are laws of nature. The doing of anything according to a given law requires thought. To awaken and develop thought in a natural order is the supreme principle of the kindergarten, and its succession of small industries were chosen as a means by which thought, which has already been awakened by the child's own experience, can be united to action and become to him, through the work that he does, a sign of his own thought, produced by his obedient following of some mathematical, scientific law.

The progress of the world is seen in, and through, and by what mind can do with matter. The power of the world is that of clear, concentrated, useful thought expressed for the benefit of humanity. This the school knows full well. It struggles to cultivate the power of thought and to save it from waste. Its highest effort is to "make children think for themselves." In this it is at one with the kindergarten, which aims to give that knowledge of the action of natural law, coupled with the ability to use it, which, as the representation of thought, is the sum of true education.

Fröbel saw that thought was a slow growth dependent upon knowledge gained by investigation of things. He established the principle that the head and the hand, being joined together by nature, should not be separated in the school, and then turned to the choice of the material that could best be used as a means for training the mind by illustrating the action of natural law.

Examination of kindergarten materials shows how careful and scientific was that choice. It is not allowed to give the child a stick, a stone, or a plant, just when it may happen. The work is organized, and in its order as it stands it represents an order of natural forms which are the *elements* of the kindergarten.

These materials, which have the appearance of toys, are divided into *gifts* and *occupations*.

The gifts are the sphere, the cube, and the cylinder, and some of the leading forms that are derived therefrom. They are chosen as representing in school the *gifts* of the Creator to man as seen in nature. They pre-

sent the substance of creation in its mineral, vegetable, and animal divisions. The ball typifies the universe. There are the multitude of stars, the sun, and moon, and this earth, a universal host of varying size, material, position, and movement. Yet reduced to unity they are simply spheres, moving with circular motion. From these Fröbel took the ball as one great typical form of nature, and through its use in the kindergarten the child learns something of its character as a solid body, yielding the element of motion.

The cube stands as the initial figure of the mineral kingdom. The spherical face of the earth is broken into mountains and valleys and ocean beds, into hills and cliffs, smooth fields and desert sands. Here, when we search for form and regularity, we find only the crystals. They are forms with straight lines and angles of all varieties. From these Fröbel chose the cube as presenting in the most simple manner, stationary form, solid strength, and rest.

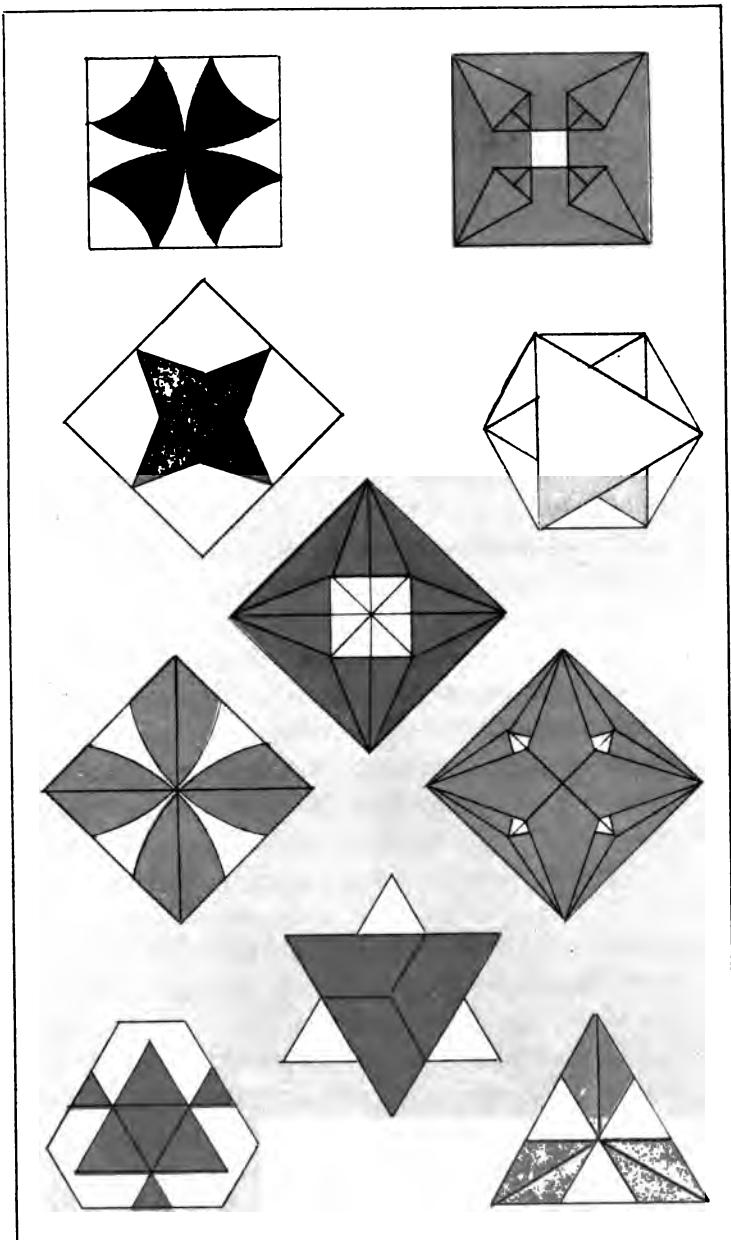
Returning again to nature, the cylinder appears as the typical form of life. The surface of the earth is not bare; out of it grow the grass and flower, shrub and tree, while over and among these range the animals, and here dwells man. Reducing these to their prevailing typical form, Fröbel found the cylinder, and setting it where, by the law of unity, it belongs, between the ball and the cube, he held in one hand the elements of his kindergarten work. Overhead hangs the sphere of the sun; underfoot lies the crystal kingdom, whose simplest form is the cube; between the two, partaking of the qualities of each, rise the forms of life, all show-

ing the cylindrical figure, from the grass of the field to the working fingers of man.

This being the meaning of the gifts, we turn to find the natural explanation of the occupations. By looking at any landscape we see that in their natural growth, unaided by man, these primary elements of material form expand, combine, and grow, into a diversity of forms which are related to each other and still are strikingly unlike; as are mountain pines and meadow grass; mountain cliffs and roadway dust; the ants and the elephants.

So the Creator begins the unfolding of life from its leading types of form. Then man takes up the work and goes on with such creations as he is equal to. He seizes upon these diverse forms and uses them all, metal and stone, timber and grass, bones, sinews, and skins, in his effort to express the thoughts that live and grow within him; and the results are as varied and diverse as are the forms he uses. In the kindergarten this work goes on, and in order that the gifts may be used, their unity is divided into a diversity of circles, lines, and angles, which are represented in materials hard and soft, flexible and stiff, and are thus ready for use in the small industries which are to be the occupations of the child.

Thus the kindergarten is allied with the life of the world and follows its industrial practice by a method which is nature's own. In all the work that is done by children the underlying elements are traceable, just as in all of man's constructions the old typical forms reappear, no matter what the work may be.



PAPER FOLDING—Forms of Symmetry.



For instance, for things of motion man takes a circle; so his wheels revolve, and his watches keep the time of his circling hours. For his chairs and tables, his office desk and packing boxes, for his house or his palace, he takes the lines and angles of crystallization; while for the machinery that extends his powers of eye, and limb, and hand, the cylinder finds, with all the rest, its royal place; as in the engine that lifts and carries, the telescope that sees the stars, or the telegraph wire that sends the words of men speeding through miles of air.

So these elements of creation, of natural science, and of human industry, which are all one and the same, are the elements of the kindergarten, and present themselves, as seen there, for consideration as the elements of the school in its adjustment of the various demands now pressing upon it.

They stand before us, simple in their unity, but capable of expansion into a diversity and complexity inexhaustible; over which no scholar will ever wholly triumph. The children start with these forms, moving from their unity towards a variety of ideas, thoughts, and labors. The unity of the kindergarten is the unity of nature. Its progress from this unity of form to an ever increasing variety of construction, is the following of the progress of nature. The training of its teachers is intended to make them familiar with the laws of nature, not that they shall teach them to children in words, but that they may know what is the logic of nature and be able to lead the child through a natural and progressive sequence of work; to keep his ideas of things in a natural order, to answer his questions by

reference to nature and fact, and to keep him constantly under the control and guidance of natural law. The pathway is thus prepared for the youngest and most difficult grade, and then Fröbel's organized detail of work comes to a conclusion. But the principles, elements, and methods of the kindergarten remain and are ready for unlimited use. To the educator who looks away from what is established to what, by some changes in the school, might be, it is clearly evident that these can be the guide in laying out a scheme of education in which the kindergarten would prepare for the school and the two would be united. A scheme, perfect in its progress and application, can only be reached through actual experience, but if natural principles can be kept in sight, they will continuously guide us in what should be done and act as tests of whatever conclusions we reach.

The subject opens before us in three grand divisions; the child, the teacher, and nature.

The child stands facing nature. He goes from one thing to another, seeing not connections, but differences, and inquiring within himself what each thing is. He sees the sun and moon, and asks what are stars. He runs over the earth, throws a stone, and says, "I'd like to know what dirt *is*, any way." He knows animals, from horses to mice. He likes rain, ice, and snow. But the forms that so attract him do not reply to his questioning. The growing boy finds himself perpetually at fault, and without intelligent guidance he continually begins what he never finishes, and roves from one *thing to another*, a superficial person, careless and igno-

rant of law. Still, though nature draws him to her only to repel when he would know who and what she really is and has to give, the child turns and returns to her and finds a glory under the sun and by the brook-side that for him exists not elsewhere.

And now it is that the teacher is needed. What shall he do? Fröbel says: "Without unity in the activity of nature, without unity for the forms of nature, without recognition and perception of this unity, and without recognition and perception of the derivation of all manifoldness from this unity, no genuine knowledge of the manifoldness of nature, no genuine natural history and consequently, also, no satisfactory instruction in the science of the manifoldness of nature can be given to man, even in boyhood."

He also says, what all true teachers soon learn from their own pupils, that "If you go out into nature with the young boy who has genuine life in him, if you bring before him the manifoldness of nature, he will immediately question you as to the higher, conditioning, active unity. All fragmentary and dismembering contemplation of nature deadens the contemplating human spirit."

This "contemplating human spirit" is the child. He is a stranger in a strange place. He has questions to ask. He would know where he is, what things are, who he is, and what he can do. In this position the teacher is answered both by words from Fröbel and by the announcement of certain laws which are accepted as indicating the natural method of satisfying the inquiring mind.

In the kindergarten, by means of the second gift, preparation is made for the intelligent answer to this question, and from that is developed, in extension, and following in natural order, a series of lessons for the school:

ASTRONOMY.

- The Sphere, Spherical forms in use.
- The Circle, Circular forms in use.
- The Sphere as a moving body, Circular motion.

So far the kindergarten has gone. The school goes on:

- The Sphere, found in Nature: Sun, Moon, Star, Earth.
- The Circle, Vertex and Horizon.
- The Sphere as a moving body: The great bodies visible in space move with circular motion.

In connection follows geometrical drawing; lines, vertical, horizontal, circular.

Next comes Geology. The books tell the child that he lives on the surface of the earth; that its crust is not very thick; that some of its mountains are volcanoes and some of its eruptive waters are hot. He reads also of earthquakes; possibly feels one. He carries stones in his pocket and wants to make a collection.

How can the earth be made intelligible to this "contemplating human spirit"? What simple standard collection can he make that will illustrate the unity of the mineral kingdom, and serve him as a useful foundation for later study? The cube gives the initial point in the reply.

GEOLOGY.

- The Cube.
- The Square.

Sides: Straight lines, corners, angles.

Derived forms: Oblongs, triangles.

The Cube as a still body: Stationary forms.

All these
in common use.

So far the kindergarten has gone. The school goes on:
The Earth: A ball or sphere, with a rough surface overgrown with plant life. Inhabited by animals and men.

Study of the mineral or crystal kingdom:

The Cube: The simplest, regular mineral form.

The Square: In Geometry.

Geometrical Drawing: Points, lines, angles, squares, triangles, cubes.

The Cube as a still body: Illustrated by no specimen easily found by children, but by Rock Salt, Lead, etc., found within the earth, to be presented by teacher.

Eruptive Rock: Crystalline (specimen) Granite.

Stratified Rock: (Specimen) Sandstone.

INTRODUCTION OF BOTANY.

Typical form of growth: The Cylinder.

Flowerless Plants: (Specimens) Ferns, Lichens, Mushrooms.

Organic Rock—Plant Remains. (Specimen) Coal.

INTRODUCTION OF ZOÖLOGY.

Typical form of growth: The Cylinder.

Radiates: (Specimens) Starfish, Sea Urchins, etc.

Mollusks: (Specimens) Oysters, Snails.

Organic Rock—Animal Remains. Coral, Crinoids, Chalk.

SURFACE OF THE EARTH.

Clay, Sand, Disintegrated Rock: (Specimens) Clay, Sand, Fine Earth.

Geology finished.

Flowering Plants: Exogens, Endogens.

Botany finished.

Articulates: (Specimens) Spiders, Crabs, Beetles.

Vertebrates: (Specimens) Fish, Birds, Domestic Animals, Man.

Zoölogy finished.

The above condensed illustration of a series of lessons in natural science follows the course of creation from

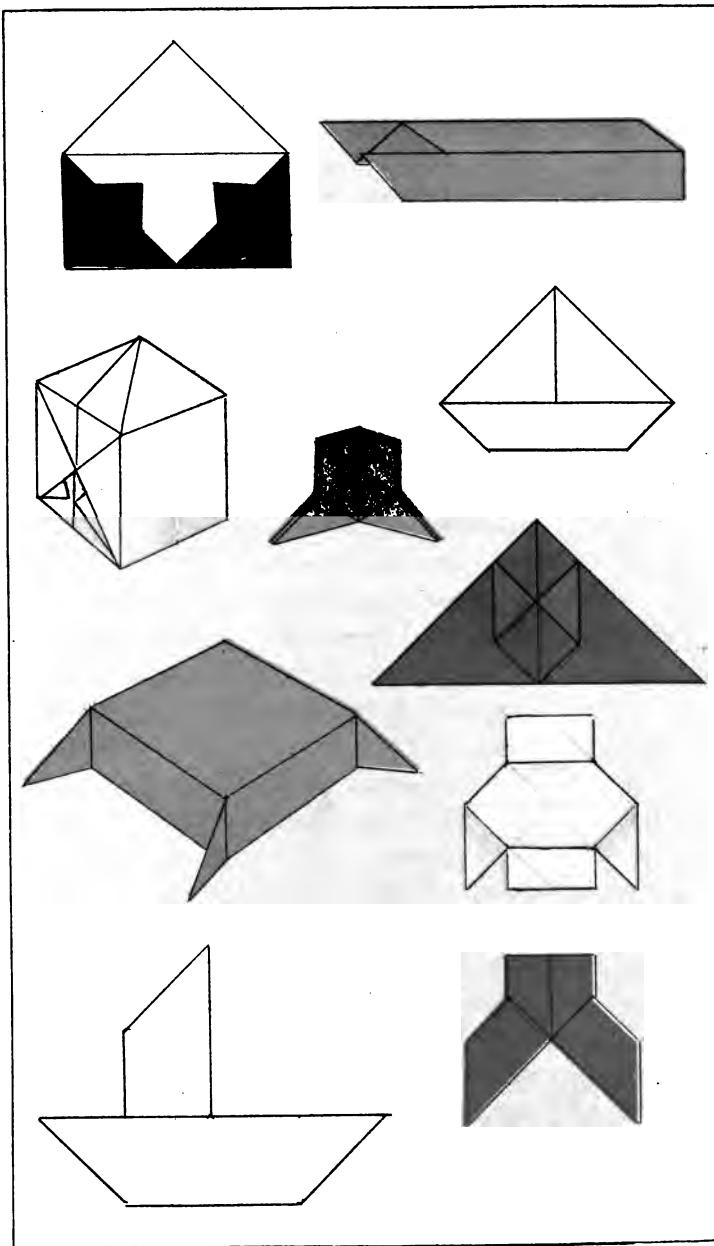
its starting points through its great successive stages. Its purpose is to give a natural answer to such questions as all children ask and to present to them an outline of the whole in order, before they undertake the parts in any study of nature.

By setting empty cabinets and, as each new subject is opened, filling them with specimens gathered by the children, much interest grows in the whole matter.

The value of the study is great, as experience shows. The faculties of observation, comparison, and judgment are cultivated, while the need for accuracy of statement calls for that precision of speech which checks the habit of exaggeration and gives an excellent opportunity for literary training. The young mind grows strong and clear under the guidance and influence of natural laws illustrated by material which clearly leads to a definite end.

By such steps in nature the child learns where he is, and though he may never study Astronomy he will still, through all his life, look up to the stars with intelligence, not ignorant of the great plan by which they hold their places.

So in Geology, by a few great steps, we arrive at an outline of the construction of the earth. This is not mineralogy; it is not a study of crystallization; it is not the study of fossils. All these may or may not be studied at some later time. They are details of Geology; they are the lesser parts that lie within the whole; and this whole should first be known in the light of its own history, before the intrusion of the parts is allowed to injure the conception of the whole.



PAPER FOLDING—Forms of Life.



So too in Botany. The child may be set to study the leaf, the flower, or the root, but he will stop his teacher and say, "Yes, but when did they all begin to grow; that's what I want to know; when did they begin?" or again, "Did flowers come all at once? Do we have to learn every one this way? We'll never get through!"*

This is the child's cry for unity. If, in reply, his teacher sends him out to collect specimens of plants and then shows him how to set them where in geological history they belong, the story is comprehensible from the beginning and the child is satisfied.

And so in Zoölogy. If a man knows only the great classes of animal life from fossils upward, he can at least be sure of what he does know, and can, upon that basis, read and hear and observe with some intelligent pleasure.

He who knows the whole can scarcely fail to find his own right place within that whole and thus, *through his education*, become a perfect part. While he who knows only the part, or parts, and who can only endeavor to construct the whole therefrom, may fail entirely in ever knowing the whole. He may utterly miss his own place, not knowing his relationships. He may fail to gather part after part as they point to the whole, and so the very crown of study, the unity of life, must escape his sightless eyes.

After the outline has thus been drawn and the pupil, laying out his *few* minerals, can construct the earth, and indicate the progress of life as a part of its substance,

*Facts.

he stands upon the surface ready, under the direction of natural law; to go in any direction which should seem most desirable. He is not ignorant of the place in which he is, in its physical view; and if the needs of his life have been fully met, he has also been learning what place belongs to him, by birth, among other men. That is, through the right teaching of history, he has been led to see that he has a home, that his place therein is an inherited right, and that the position he holds is only an entailed estate, which he is bound to leave behind him, uninjured and even improved for the benefit of those who will be his heirs. Thus, through perceiving his own relationships, he understands that for his country's sake he has a work to do, a personal duty to perform, which must begin in the family and the school, and from there develop as that self-government which is man's highest earthly estate.

When the story of man's life is presented to the pupil in its natural order, the outlines of Physical Geography necessary to the clear telling of the story take their place as a matter of course, and Political Geography becomes an incidental study; the result of the movements of man. A child so taught in the lower grades of school has been learning the unity of life. He has not been dealing with separate specialties wholly unconnected, but while he has had the variety of study which the young mind needs, he has also been following the fact that there are no stray truths in the universe, but all are related to each other in unity, grand and unbroken.

To draw clear and complete outlines of things,

whether of human figures, of the solar system, of the physical world, or the great organized groups of people whom we know as nations, is not to be superficial. We may put a hand, a foot, a limb, and even a head upon canvas, and yet have no complete figure there. We may paint, with faithful care, every detail of muscle, color, and the texture of the skin, until life itself is depicted, yet without organization and unity of relationship these parts do not truly inform, though they may fill the mind. But let the true artist draw, upon a blackboard even, with only chalk in his skillful hand, the bare but complete outline of a human figure and we know it at once as a whole. We see its character, whether male or female. Its attitude, position, and movement are all indicated, whether still or in flight; whether thoughtful or gay; drooping in physical weakness and age, or erect and vigorous in youthful vitality. The greatest artist is he who reveals the most with fewest strokes of his pencil; and the greatest among teachers is he who can resist the temptation to enter into details and keep to the presentation of the whole before he attempts the parts. That this principle has been neglected and, in the effort for thoroughness, that words have been multiplied and the parts of subjects of study presented, to the injury of both pupil and teacher, is by many freely admitted.

In setting the whole before the pupil the substance of his education is in truth given into his hands. How much of its interior life and form he will eventually know is wholly a question of time, opportunity, and desire, but in giving the elements of all that is, the

school provides the best foundation for whatever may be done in the future. The work naturally moves from these essential points, through all higher grades of teaching, constantly unfolding in unbroken continuity, by means of repetition of the subject and expansion of the parts. The expansion of its parts is unending, whether taken as a whole in its entire connection of form, substance, and life, or if studied in separate sections. Thus it serves as a perpetual schedule of work from which detailed lessons can be drawn from the kindergarten upward.

Manual training, having its definite purpose and end, can, as is already proved by experience, be made a part of school teaching. The question underlying all others is, how to make it a means and not an end; to make it an illustration of principle rather than the manufacture of pretty or showy things. The question is now being so widely tested that it is safe to assume that the hand will hereafter be allowed its place in working out the problems of school life. The kindergarten occupations are the foundation of all leading industries. In them the geometrical principles with which the pupil is familiar, are illustrated. Clay work, wood carving, and simple carpenter work carry out these principles and have been found easy of accomplishment.

The changes that have already taken place in our schools have prepared in a great measure for the further acceptance of the principles, elements, and methods which were practiced and set forth by Fröbel. It is not too much to say that these changes have been *most* beneficial and are most satisfactory when they

most nearly approach the idea and method of the kindergarten. This is true, not because they are taken from the kindergarten, but because they are taken from nature and tend to the practice of natural law.

The spirit of the kindergarten is simply the spirit of nature, which accepts the child as he is, bodily, mentally, and spiritually, and seeks to educate by providing such material and direction as can serve to draw out from his growing mind the faculties by which he can perceive, handle, compare, and so know the things of the world in which he dwells. With so much of this spirit of nature as now exists between the various groups of those who are interested in education, both in and out of schools, the work of entire agreement need not require overmuch of effort or of time.

This agreement will come through a better comprehension and a united acceptance of principles, with a clear understanding of what is to be done and how it can be done. The plan which would satisfy all demands made upon the school would be mathematical, with geometry from the kindergarten upward, as well as arithmetic; natural science would take its orderly place as a part of primary teaching, and literary culture, growing out of this, would be far broader than at present.

When the fragments of things are no longer offered to children, in place of the whole; when the diversity of nature ceases to be that which is taught and studied; when the laws of nature's unity are obeyed both in the choice of material and in guiding the action of the growing mind, then our schemes of education will be

harmonious and our progress will be that of nature itself. In that progress, one grand principle, announced by Fröbel and followed in the kindergarten, will serve as our noblest guide. We are shown that man is born within three great relationships, which are his connection with nature, with the Creator, and with his fellow men. When these are always perceived and frequently illustrated by the teacher the child's mind reaches out to the complete horizon of his life, and nothing is wanting. His mind and his spirit are educated together. Fröbel says, "As in the world of art the spirit of man appears and expresses itself invisibly, yet visibly, and as the world of art is thus invisibly yet visibly a spiritual kingdom, so the Spirit of God appears invisibly yet visibly in nature, and nature is thus invisibly yet visibly the Kingdom of God."

In this is no theology, but in this is all true religion, and in the light of these highest associations, with nature for the chief means of the education of children, there is good reason to believe that the kindergarten and the school may meet, and, by their combined efforts in the department of labor and in the world of letters, that they may perfect and carry forward a scheme of work and teaching which will satisfy all the demands now made upon them, as they stand in their separate positions, apart from each other, yet desirous of union.

PUBLISHERS' DEPARTMENT.

A FEW HINTS ON THE USE OF STICKS, PAPERS, AND CLAY,

IN PRIMARY DRAWING LESSONS.

Form knowledge is the foundation on which to build instruction in the art of drawing. A child that has had a full kindergarten course before entering the primary school, has already acquired this knowledge of form and is ready to proceed at once to drawing, but with others a ground work must be done with the solid models in the hands of every pupil, that each may handle the forms and become familiar with their peculiarities, and the best results are obtained if the children also have clay with which to make the forms for themselves. Having handled the models and examined them sufficiently to be able to make even imperfect copies in clay the children will know much about them. A teacher may hold a cube in her hand and explain all about its edges, faces, corners, angles, etc., for an entire term, and then in one lesson of twenty minutes with the clay and the models in the pupils' hands they will learn more of the nature of the cube than in all the previous time. This has been demonstrated repeatedly.

Beginning with the sphere the child will see that it rolls in all directions, and that its outline is a circle from whatever point it is viewed. When the attempt is made to imitate this form in clay and the result is not entirely satisfactory the contrast between the wooden model and the clay will show clearly where the fault is. In the cylinder the children see a form that will roll in one direction but not in the other; that the end is a circle and possibly, after some effort, that the side view is a rectangle. This form is not so easily made as the sphere.

In the cube new features appear; plane faces with straight lines on the corners are seen. This is most easily made from the sphere by flattening the sides on the modeling board or paper. Having worked from the sphere to the cube and made it in clay, the square plane faces, right lined edges and their angles will have become familiar and the right angle will be easily explained. Taking a model of a cube one inch square, a card-board tablet of the same size may be placed on one of its faces, and when removed will represent one of the surfaces of the cube. Its edges show lines and its corners angles. We have now worked up from the ball to the surface and the lines bounding it, and if the work has been properly conducted the child will have received a good knowledge of form and will be ready to begin the delineation of various forms.

But at first the fingers are not accustomed to the use of the pencil, and so much thought is necessary to manage it that little is left for the direction to be given it or the form to be made on the paper. Therefore straight sticks to represent straight lines have been found very useful—first as a simple means of delineating forms, and later for making the forms to be drawn with the

pencil. To be sure the thin square stick in common use has several edges and sides, yet if it is presented as the representation of a large line it will be so accepted without criticism. The sticks are in assorted lengths of from one inch to five inches with sometimes the diagonals of squares from one to four inches—and for further interest and instruction they are often colored in three or six colors. With these simple sticks the terms horizontal, vertical perpendicular, oblique to right or left, etc., etc., may all be worked out by the pupils, and the teacher may see the results at a glance, and order any necessary corrections without the constant rubbing out which is necessary with slate and pencil. The advantages of the sticks over the pencil in the earliest stages is well described in the following testimony of a teacher, experienced in the old methods, respecting the value of stick laying in the earliest attempts at form delineating.

"Vertical and horizontal lines had been before teacher and pupil for several days, till the teacher was positively certain that they were perfectly understood by the class, whether in window-sash or slate-frame. Still when the pencil attempted to reproduce the simplest designs by their use, confusion ensued, and straight lines of any kind were an impossibility. She went to her desk, took out kindergarten gift number 8, and silently distributed the bright-colored sticks among the delighted, wondering children. 'Now give me two vertical lines,' said the teacher, and the dullest pupil in the class had two parallel perpendiculars before him at once. Horizontals followed equally correct, and by dictation alone were boxes and chairs built by wee little people who had never been able to follow a direction before. One little fellow, who had seemed to be an embodiment of stolidity, seized upon those attractive invitations to activity as a duck would splash into the first water it ever saw, and astonished the teacher by such accuracy of eye-measurement and deftness of touch that her respect for the future artisan went up at once. 'Shall I ever learn to let these children learn to do their work themselves with the blessed help of attractive objects, and not try to force them into *my way of doing things*?' she thought as she gathered up the big bunch of delicate sticks, not one of which was broken or injured. Something else besides lines was taught that day, and the children were not the only learners."

The angle may be explained by two sticks in contact at the ends and diverging. It is difficult to make a child comprehend that an angle is the divergence of two lines rather than the surface between them, but if, with two sticks held as above, the statement is made that the angle is the "opening" between the lines, and at the same time the sticks are made to open and close,—thus conveying a practical idea of the "opening," as distinct from a surface,—a much clearer idea of the angle is presented to the mind of the child than can be done with lines on a surface. The use of the sticks in form study can only be suggested here, but the possibilities are almost unlimited.

The sticks having thus served their purposes for the elementary construction of forms, the forms so made and many others may now be used as models for drawing. Drawing is an imitative art, every drawing being a representation or imitation of something real or imaginary. All instruction in drawing may be simply divided into two classes, namely, drawing from the flat copy and from the model.

For the earliest primary instruction the model is fast coming to the front and claiming equality with the flat copy which has in the past been almost exclusively used in this grade because considered more simple. Certainly it is easier for a teacher to give a child a sheet of paper, and a copy consisting of meaningless lines, with the order to "copy them," than it is to properly present a lesson in model drawing, and it requires much less knowledge, but it *certainly inspires no interest* in the child, and affords but a very limited amount of instruction.

Drawing from the flat copy is well presented in each of the many valuable series of instruction books on this subject now before the public, and generally model drawing, in its more advanced stages, receives some attention, but drawing from the flat copy is so easily taught that it has more than its proper share, so that while recognizing the great value of this branch of the study it requires no special advocate.

On the other hand, primary drawing from the model has not heretofore had proper attention—and hence the following simple suggestions are offered for special work to be introduced as general exercises regardless of any series of instruction books in use.

The indolent and careless teacher will not care for such an exercise but will stick to the easier work with the copy book. The less culpable but equally unfortunate one who has had no instruction in drawing may also prefer to jog along in the old ways rather than devote a few hours per month to the understanding, and introduction, of something a little out of the old lines—but to the large majority of the primary teachers of to-day who are wide-awake to the interests of their pupils, the following suggestions may be of value.

"Man is a creative being" and the man is but the larger and older boy. Nothing so much pleases a child as to make something new. If a child can be interested and instructed at the same time, the instruction will stick, because it becomes a part of the being. A child not only learns to do by doing but learns to know by doing. Now let us apply these simple truths to primary drawing.

The first model must be very simple. The stick is a model of a line, *i. e.* the embodied line. If now several sticks are laid to represent some outline figure the child not only has a model, but a model of his own making, which is much more interesting than one ready made. After the simple geometrical figures have been used many forms of beauty and life can be made. For guides in symmetrical designing with sticks, the squared tops of the kindergarten tablets are very valuable, but a sheet of heavy paper nearly the size of a desk top, ruled in one inch squares, is a cheap and useful substitute, and the occupation of carefully laying out and ruling the papers is valuable practice for the more advanced children in the higher grades.

For a surface on which to make the drawing, give the pupil paper covered with small dots in one inch squares. These dots correspond with the crossings of the lines on the desk top, on which the sticks are laid, and thus serve as a guide to help the young draughtsman locate his lines.

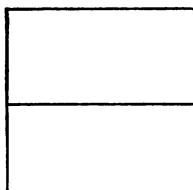
While the sticks are models of the lines which form the outlines of the figures to be drawn, they do not really present models of the surfaces or forms in two dimensions and in looking for such a model nothing seems more suitable than a piece of paper, which for added interest may be of some pleasing color and for education in form and dimension may be square and just four inches on each side. Give each child a piece of paper, and as far as convenient allow each to choose a color, thus encouraging the will power in making a choice and giving variety and added interest to the occupation.

The teacher also has a paper, and at this stage in the exercises a little catechising as to form and size and possibly colors may be profitable, the amount and nature of this work depending entirely on the ages and previous condition of the pupils. A pupil from a kindergarten will know all about it, while another of the same age will know nothing about it. Now tell each to make a drawing of the piece of paper,—in the center of the sheet of drawing paper,—by connecting suitable points already on the paper. When all have drawn the square more or less correctly see that each has done fairly well according to age, helping such as may have been unable to understand the general instructions, if such there may be. Next tell them to fold their papers from side to side, forming an oblong four inches by two inches; then to open

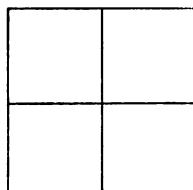
the papers and then ask what new feature appears in the paper or model that was not there before. They find a seam or crease in each paper, which they have made, each for himself.

Now something has been made; they have added something to the model. Tell them to represent that crease on the drawing.

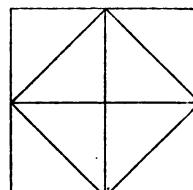
In like manner dictate various other foldings, giving very clear directions which cannot be misunderstood and requiring close attention while dictating; then give the pupils time to execute without further talk, and with the understanding that the order is not to be repeated until all have had ample time to execute it. When all have had time to make the fold the teacher may repeat the order, at the same time folding her paper plainly before the pupils so that any that did not understand the order may now perform the operation by imitation, and thus keep along with the class.



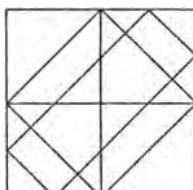
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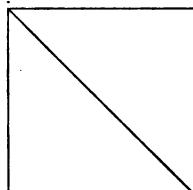
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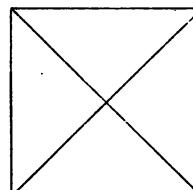
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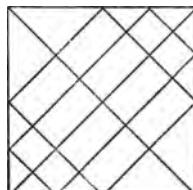
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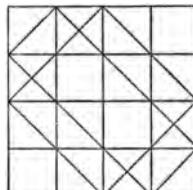
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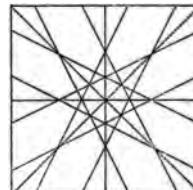
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8



9

Very pleasing designs may be made by successive foldings as shown in the accompanying diagrams. As many or as few folds may be made as suits the conditions in each case.

Fig. 1 shows one fold from side to side. Fig. 2 the same repeated at right angles to the first. In figure 3 four additional folds are shown, each corner having been folded to the center. These three figures form a succession of six separate foldings—each to be made independently. In figure 4 four folds are

added to figure 3, viz., two of the corners are folded to their opposite diagonals and the other corners to their own diagonals.

This folding will be readily understood by trial, but is one of the most difficult for the children to execute correctly, and should, probably, not be used until after figures 7 and 8. With the above explanations figures 5, 6, and 7 will be readily understood. Fig. 8 is developed from figure 3 by folding each side to the center lines, making four foldings, and then making the same folds as described for figure 4, and this figure, although more complicated than figure 4, is less difficult, because the four diagonals have been bisected by the rectangular folds, thus giving definite points at which to place the corners in making the two long diagonal folds.

Fig. 9 is seemingly complicated, but is simple in the folding, which is as follows:—

To figure 2 add the foldings of figure 6, and then fold each corner to the centers of the opposite sides. Thus the lower right hand corner is carried to the center of the top side, and then to the center of the left hand side. These two folds applied to each corner, making eight in all, complete the figure. The drawing of this figure is very simple after the sides of the square are first accurately divided into eight equal parts of one-half inch each. It is not very difficult with the dotted paper in one inch squares, even without any measurements, and with a rule the necessary one half inch spaces are accurately obtained if the use of the rule is allowed.

All these figures should first be folded and drawn by the teacher before dictating to the children, that all the difficulties may be encountered in advance. Fig. 9 should not be attempted until all the others have been well mastered by the pupils.

Circles and equilateral triangles may follow the squares for variety, but the square is more simple and useful, perhaps, although the circle gives opportunity for lessons on the angles.

The amount of instruction in form and color that may be worked out of a lesson of this kind is wonderful to a person who has never given any thought to the subject.

These two simple materials, sticks and papers, having formed models in two dimensions, we now come to objects in three dimensions, or solids. At this stage we perhaps pass from the purely primary to the intermediate, and in this brief paper no details can be given as to methods of instruction, but, in general, the models must be kept in use. Every pupil should have in his own hands models, preferably of wood, to handle and examine; also clay from which to model forms either original or imitations of other forms from nature or art. Commencing with geometrical forms the work may advance to natural objects, such as fruits, leaves, etc., etc.

Modeling is said to be easier to the average person than drawing, and this seems very reasonable, but, whether it is so or not, it certainly should accompany the drawing in industrial and art education, and, in this work, beauty and business must constantly be insisted upon—not mere aimless play—and all the modeling should be directly subjective to object drawing.

Clay work in the school-room is objected to by some as dirty, but this is from those who are not familiar with its use and object. The children are not given a tub of clay to play with, but merely a small piece, of just the proper consistency for use, and in this condition it is very cleanly and need not soil the clothes nearly as much as the use of chalk at the blackboard, while unlike the chalk it is beneficial to the hands, giving them a soft and smooth surface, and there is an entire absence of the dust arising from the crayon which always fills the air when the work at the blackboard is going on. A small jar of moist clay may easily be kept prepared for use at no necessary expense after the first insignificant investment, as it may be repeatedly returned

to the jar after having been used. The necessary amount of water to be added occasionally will very soon be determined by a teacher. Muddy clay can never be used to any advantage, and, as before stated, when the clay is of the proper consistency to work to the best advantage it is not dirty.

Having thus briefly hinted at a few simple methods in the earliest efforts at model drawing, the following statement of the logic of drawing as a whole may be of value to such teachers as have had little opportunity for gaining early instruction on the subject:—

As stated at the beginning, drawing is an imitative art.

We first see an object and then we attempt to draw it. The drawing is not the object but an imitation of it. Therefore the draughtsman must have definite knowledge of an object before he can draw it, and hence the beginning of drawing is form knowledge—and this must be the foundation of all drawing that is to be of any practical value. After the mind has been so educated in form that it can intelligently conceive definite forms of beauty or utility, and the eyes and hand are educated to produce on paper representations of the objects seen in the mind, then it is easier to make the drawings than to work out the forms in the solid. Hence the draughtsman makes his drawing and calls on the mechanic—who may have sufficient education to read the drawing but not to produce it—to do the greater manual labor.

But this original drawing is as much an imitation as the earliest piece of model drawing, because it is merely a representation of the forms which existed in the mind of the draughtsman. So also the artist, after years of practice in imitating landscapes or animals or the human figure which he has seen, becomes sufficiently educated to conceive beautiful forms and combinations, and to transfer them to his canvas, but the creation is not on the canvas but in the mind of the artist. Drawing from the flat, or in other words copying other drawings, has its value which must not be overlooked or underestimated.

It educates the eye to judge of distances and angles, and the hand to follow the dictates of the eye, and in various other ways is valuable if properly pursued as a means and not an end, but when a pupil "takes drawing and painting" with the object to be able to copy a few crayon drawings, or pretty flower pieces, or a stock landscape to hang in the parlor, and then considers his or her art education finished, what real good has been accomplished? The result is not an acquirement of permanent interest to the artist (?), nor of any value whatever to the world. Hence the time that has thus far been devoted to copying ornamental forms in our school courses of drawing has very largely been wasted, as it has been of value simply in educating the hand and eye in the most elementary principles, which could largely have been as well secured in other and more valuable practice. It may be said that an idea of decorative forms and ornaments is obtained, but without an understanding of the principles of ornamentation by the teacher, and the presentation of them step by step, a large part of that value is lost, and with suitable instruction models of the ornaments in relief would oftentimes be far more valuable than the printed copies, which at the best but imperfectly represent the forms to the pupils. And worst of all is the practice of setting pupils, twelve to fourteen years old, to inventing forms of beauty (?) before they have been instructed in the first elements of beauty in design or form.

With these few brief hints the subject is left with the thoughtful teacher to whose notice these pages may come.

KINDERGARTEN MATERIAL.

The material for the kindergarten is necessarily an important feature in the work. If it is accurate, neat, and well made, it inculcates exactly the points that are to be emphasized, while, if it is roughly and slovenly made as regards dimensions, forms, and colors, the example destroys much of the instruction that may be given by even the best teachers.

As pioneers in the manufacture of kindergarten material in this country, an experience of nearly twenty years has developed a line of goods which are now acknowledged to be superior to any others ever made in the world.

The variety and diversity of articles employed as gifts and occupations in the kindergarten forbid an enumeration of them in detail within reasonable limits, as they now comprise more than five hundred numbers, occupying about forty large, closely printed pages in a catalogue which will be mailed free to any teacher or kindergartner. A catalogue is absolutely necessary in ordering even the simplest articles, intelligently, as in some lines a very slight variation in size, color, or design is often of the greatest importance in the special work for which the material is required. Therefore whenever you commence to need any material send at once for a catalogue.

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Another valuable feature of these maps is the illuminated backs. Covering the entire back of each map is an original design, lithographed in colors and depicting the principal animal and vegetable productions of the country.

Each map is packed in a finely finished wooden box with chromo lithographic label, and may be bought separately if so desired for home use, but for school purposes the entire series is recommended, as in this way the full benefit of the system is realized.

Map of Europe, size, 12x9,	.	.	.	.	Price, each, \$0.75
Map of Asia, size, 21 $\frac{1}{2}$ x20 $\frac{1}{2}$,	.	.	.	"	" 1.25
Map of Africa, size, 17x18 $\frac{1}{2}$,	.	.	.	"	" 1.25
Map of North America, size, 18x20,	.	.	.	"	" 1.25
Map of South America, size, 15x19,	.	.	.	"	" 1.25
The set of above five maps,	.	.	.	.	5.00

New Dissected Map of the United States.

This is printed from an entirely new set of plates engraved expressly for this purpose. The scale of this map has no definite relation to the scale of the continental series, being much larger.

The back is provided with the same style of colored lithographic designs, showing the industries and productions of the country, and is by far the finest dissected map of the United States ever made.

Mounted on wood $\frac{1}{8}$ inch thick, packed in fine wooden box with colored label, size, 22x15. Price, each, \$1.00.

THE PARADISE OF CHILDHOOD.

BY EDWARD WIEBE.

The only complete guide to the kindergarten yet published in the English language, and forming the best possible foundation for the building of a partial or complete kindergarten education. All the gifts and occupations are explained considerably in detail with a large number of lithographic plates. There are many other books treating of some special features more in detail, and which are valuable to supplement this, but every primary teacher should own the Paradise of Childhood first of all. Large double column quarto, 84 pages letter press, and 76 pages engraved lithographic plates. Paper, \$1.50; cloth, \$2.00.

EDUCATIONAL TOY MONEY.

It is a well-known fact, that all children are fond of counting money, and that they more readily learn to do it correctly, than to count any other commodity.

These facts have led us to add to our primary educational aids, Fisher's Toy Money, which is the only article of the kind allowed by the U. S. Government to be manufactured and sold.

The fac-simile of each of the different coins in common use from the cent to the dollar, is stamped on heavy white card-board. Wherever this has been used in primary schools the scholars have acquired a facility and correctness in adding, subtracting, and multiplying, which commends it as the best appliance yet found for acquiring an early knowledge of the fundamental processes of arithmetic.

Each box of U. S. money contains assorted pieces representing about \$16.50. Price 25 cents, sample sent by mail on receipt of price.

THE TOY MONEY IN BULK.

Since the toy money in boxes has begun to be used to a considerable extent in our public schools, there has been a demand for the various denominations in bulk, and we now offer any denomination in any quantity as per the accompanying scale of prices:—

One Dollar pieces,	.	.	.	.	.	per thousand,	\$1.75
Half Dollar pieces,	.	.	.	.	.	"	1.25
Quarter Dollar pieces,	.	.	.	.	.	"	1.00
Ten Cent pieces,	.	.	.	.	.	"	.60
Five Cent pieces,	.	.	.	.	.	"	.75
Two Cent pieces,	.	.	.	.	.	"	.80
One Cent pieces,	.	.	.	.	.	"	.75

Teachers as well as others frequently offer various suggestions for modifications in the style and quality of these coins, but they are now made under the protection and direction of the U. S. authorities, who are very particular as to the limits within which the details of the manufacture must be confined. Since the issue of the patent under which we manufacture, several other parties have thought to make something different and have been promptly stopped by the Treasury Department. This money is made by special direction and permission from the Treasury Department in addition to the author-embraced in the Letters Patent.

THE EDUCATIONAL CLOCK DIAL.

This educational aid, made in response to a general demand, is not a new idea, but is presented in a new form which commends it to all progressive teachers.

The back contains a series of illustrations and descriptions of the prominent methods used in different ages for marking time. Mounted on heavy binder's board, bound with cloth and varnished.

Price, each,	· · · · ·	\$0.50
Price, each, by mail,	· · · · ·	.60

The same matter, front and back, on heavy card-board, without binding or varnished, a good article for the home but not as durable for school use.

Price, each,	· · · · ·	\$0.25
Price, by mail,	· · · · ·	.30

WORD MAKING TABLETS.

An assortment of one-inch square tablets of heavy tinted card-board with upper and lower case letters and numerals, for youngest children. Neat box with colored label. Sample by mail for 25 cents.

LANGUAGE TABLETS.

A set of thick card-board tablets, each bearing a familiar word on each side, for use in making simple sentences.

The set comprises over 600 words, and in addition, a large number of single letters of corresponding type for forming other words which may be required from time to time. Also numerals and punctuation marks. The whole in a neat box with colored label. Sample by mail for only 30 cents.

COUNTING BLOCKS.

Either cubes or a combination of cubes with bricks, half bricks, and quarter bricks are used for this purpose and a class of work much cheaper than the kindergarten gifts is made in plain wood and in colors.

COLOR TABLETS AND GELATINE FILMS.

A series of heavy paper tablets in a new combination of forms for illustrating the relations of colors to each other. Also three transparent gelatine sheets in the three primary colors for showing the union of these colors in the production of the green, purple, and orange.

KINDERGARTEN MATERIAL AS PRIMARY SCHOOL AIDS.

Among the regular kindergarten material commonly used for primary school work, the following are most popular:—

Colored square sticks for counting and for laying forms.

Colored papers for folding and cutting.

Cut papers for weaving and braiding.

Design cards for embroidery.

Parquetry papers for pasting.

Clay for modeling.

ELEMENTARY CHARTS OF THE HUMAN BODY.

FOR INSTRUCTION IN PHYSIOLOGY AND HYGIENE.

The introduction of the study of Physiology and Hygiene into the lower grades of schools in this country, as demanded by public opinion and by the laws of many of the States, necessitates the use of charts, and the large number of rooms to be supplied has created a universal inquiry among school officers for something better suited to this grade of instruction than those heretofore published, and at a much lower price.

The Charts of the Human Body have been prepared especially to meet this call for a clear, accurate, and simple series of illustrations at a moderate price and without the complicated details which are necessary in more advanced classes, but which confuse younger pupils and possibly cause them to ask questions far in advance of their comprehension.

The several figures have been selected and drawn, with express reference to this grade of work, in many cases from nature, and wherever copied from standard publications they have been verified or corrected by competent experts. The plates have been very carefully prepared and the printing executed in chromo-lithography with the abundance of impressions necessary to the best effects, whether in natural or conventional colors. There are thirty-nine figures in all, on three charts, each 25x38 inches.

The figures are selected with special reference to the ground covered by the various text books on this subject in use in this grade, and will be found to be in harmony with the general plan of these books.

The entire set of three charts mounted on cloth with head and bottom sticks like maps for only \$3.00, or each chart in a spring roller case for \$5.00 per set.

THE MENSURATION OF SURFACES AND SOLIDS.

A complete set of apparatus for demonstrating in a most impressive manner the facts involved in the mensuration of the surface of a circle and a triangle and the solid contents of sphere, cylinder, and cone. These models, once seen and used by a pupil, so effectually fix certain facts and relations of parts in his mind that they will remain long after the recollection of all the formulas acquired by weeks of hard study has been lost.

If any progress worthy the name is to be made in combining mental and manual education harmoniously, the simple elements of mensuration, mechanics, and physics must be taught the children of the grammar school age in such manner that the facts will remain with them if they never go far enough to get at all the reasons; and this can only be done by material demonstration; and very much may be done in this way in a wonderfully limited amount of time if properly woven in with the practical manual operations requiring the use of these principles. For this purpose a line of aids is very rapidly being developed, and many very useful pieces of apparatus are already at the hand of any teacher desiring them, and at a very limited expense.

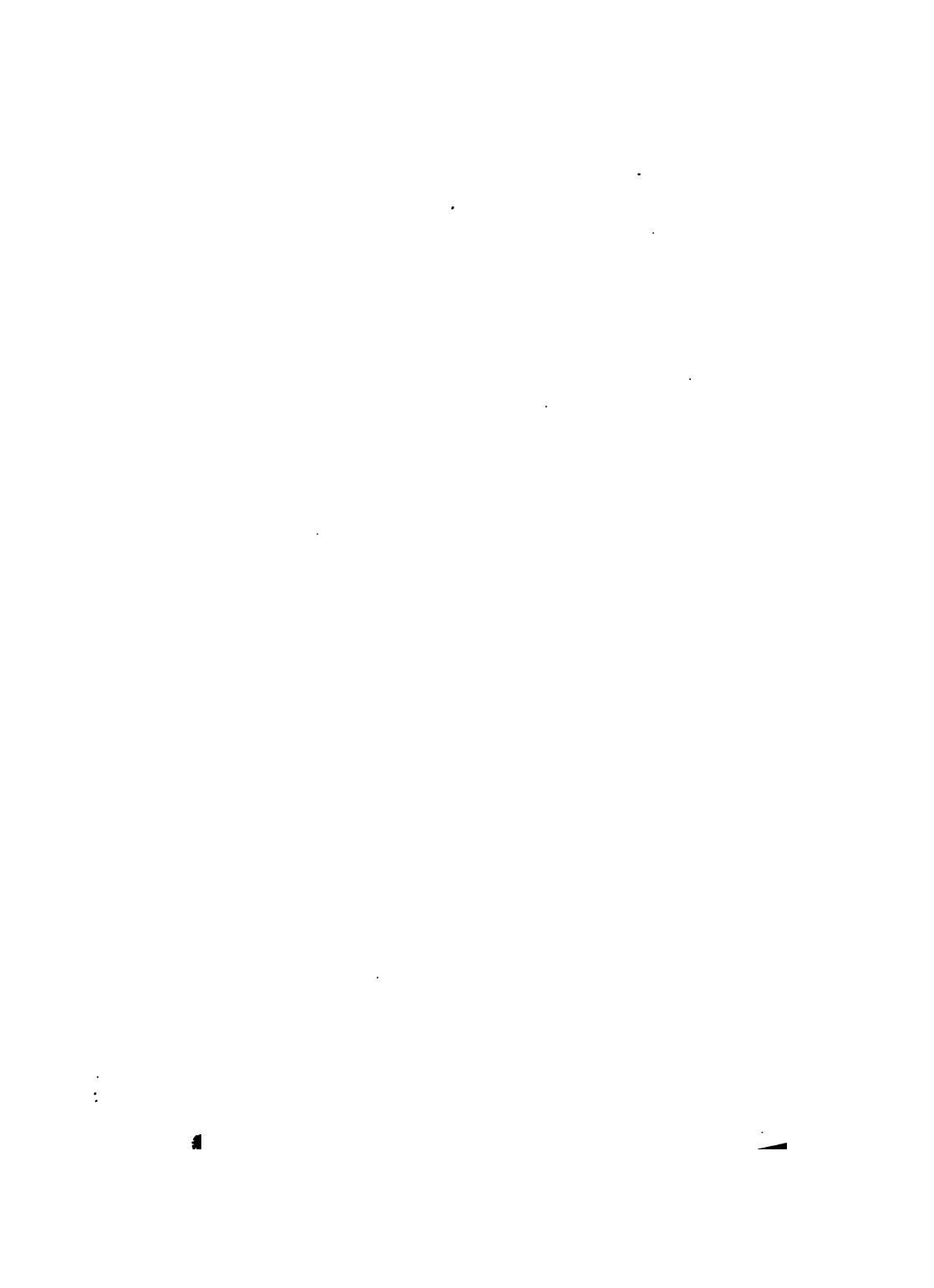
Others are coming up every week in the minds of thoughtful teachers, and we solicit correspondence with all such, both that they may give us suggestions and also learn what has already been done:

Illustrated catalogues and miscellaneous circulars will be sent to any one interested in this subject, and we solicit an exchange of ideas in this direction. In asking for catalogues and circulars please state what general line is of special interest to you.

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